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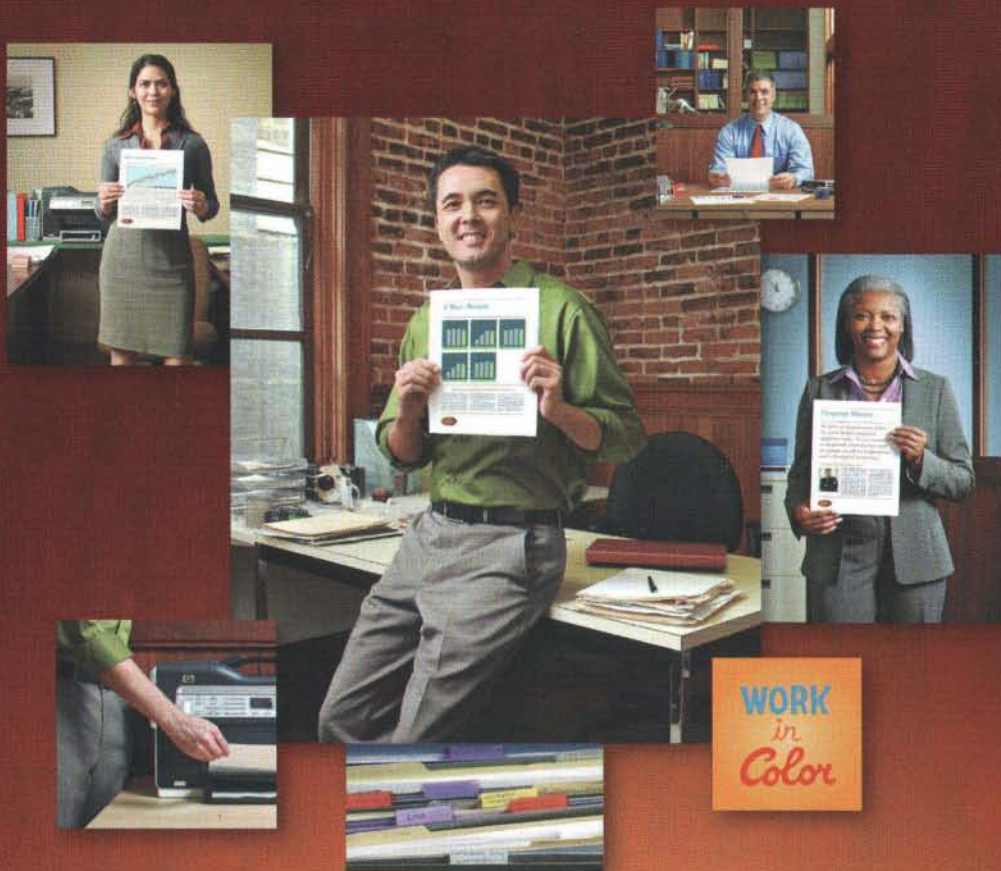
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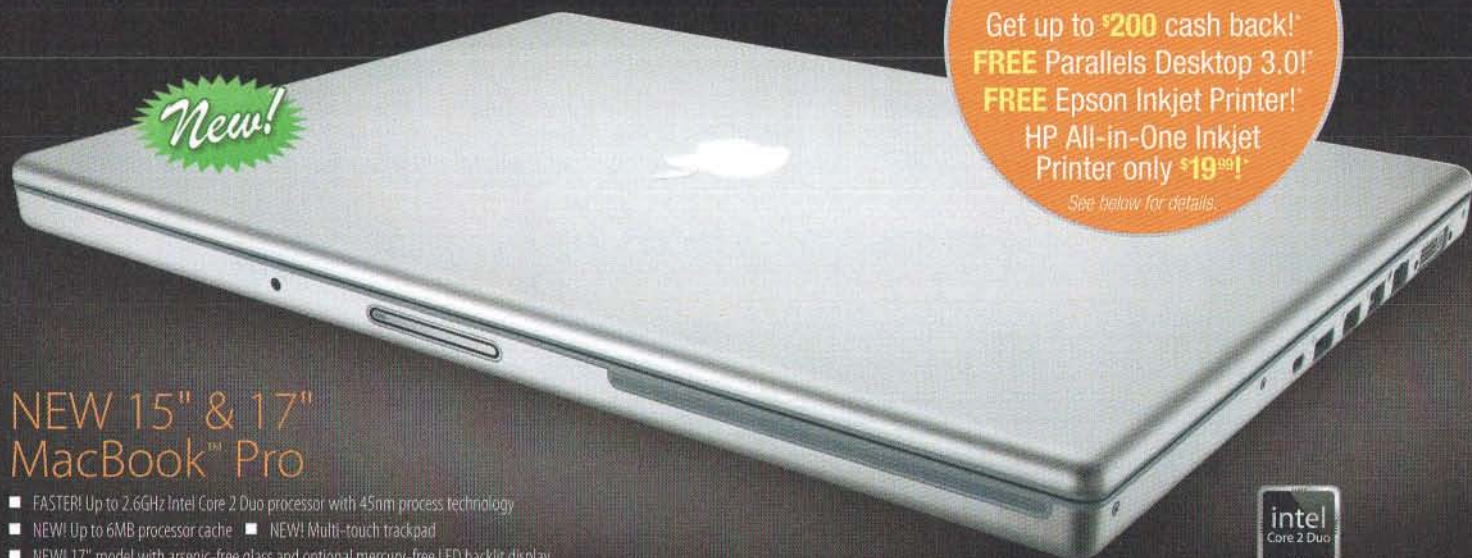
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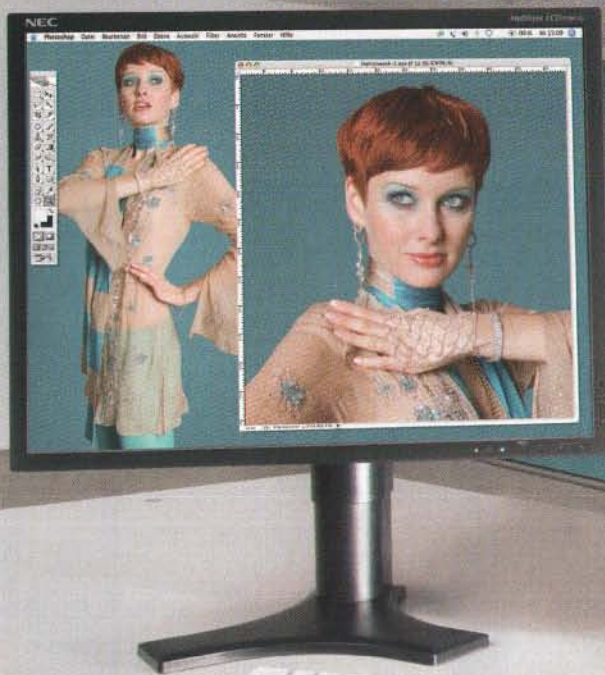
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# From the Editor

It's that time of year, once again. Of course, I'm writing this in advance of that *exact* time. That time being WWDC. A promise of something new. A promise of some inside knowledge. As technology keeps moving along at this pace, you may wonder where it will end. We have no idea. All we can do is inform you of where it is and the direction it's facing. That's typically enough information for any one brain to handle. This month, we all get more than our share. Quite a bit is coming to you from MacTech.

Two articles this month touch on **packaging files in OS X**: Jose Cruz delves into **Leopard's Package Maker.app** while this month's Mac In the Shell talks about **command line packagemaker**. In both cases, packaging files is important to both developers and system administrators. The OS X package format is *the* way to deploy files to OS X systems. Interestingly, everything on Unix is a file. Packages can be used to add users and passwords to a system, change preferences or even install an entire operating system. Learn how to build and automate package creation, and do more with multiple systems.

We also bring you articles on **Interface Builder**, **TextMate**, and **creating web-based apps for the iPhone** (despite the new SDK!). **MacEnterprise** details **changes to the printing environment (CUPS) in Leopard**.

This month also marks the first of **Andy Inhatko's** articles for MacTech. Always enjoyable, take a respite, and gain some insight into why we all do what we do in this industry.

Finally, check in with Dave Hayden from Panic Software in the MacTech Spotlight. Enjoy all of the going-ons of WWDC. When it's all behind us, MacTech will be back next month with the next bit of technology in this industry we're wrapped up in.

Ed Marczak,  
Executive Editor

## This issue dedicated to the memory of Stan Flack

by Dennis Sellers and Neil Ticktin

The world of Mac journalism has lost one of the great ones. Stan Flack, who founded both MacCentral and MacMinute, died on April 14th. According to his sister Julie, he "passed away due to health complications from his condition."

Stan was a good friend to many in the Mac industry, and certainly to many journalists and those in the Mac media. Frankly, he was always there to help and work with MacTech as well.

Stan founded MacMinute in 2001 to "keep you up-to-date on everything that is going on in the world of Macintosh as soon as it happens." Prior to creating MacMinute, Stan Flack founded MacCentral. He sold MacCentral to Mac Publishing, the company behind the MacWorld properties on June 1, 1999.

Eventually, the web site was folded into the MacWorld brand name and the last vestiges of MacCentral disappeared with the incorporation of the MacCentral Forum into the MacWorld forums in December 2007.

Things change, time passes and folks move on to other things, but Stan's impact lives on. Pretty much all of those involved with MacCentral are still Mac lovers and involved in covering Apple in the media.

So here's to Stan Flack, who would have turned 43 this year. Thank you for all that you've done for the Mac community.



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**Canada Post:** Publications Mail Agreement #41513541

**Canada Returns to be sent to:** Bleuchip International, P.O. Box 25542, London, ON N6C 6B2

**MacTech Magazine** (ISSN: 1067-8360 / USPS: 010-227) is published monthly by Xplain Corporation, 850-P Hampshire Road, Westlake Village, CA 91361-2800. Voice: 805/494-9797, FAX: 805/494-9798. Domestic subscription rates are \$47.00 per year. Canadian subscriptions are \$59.00 per year. All other international subscriptions are \$97.00 per year. Domestic source code disk subscriptions are \$77 per year. All international disk subscriptions are \$97.00 a year. Please remit in U.S. funds only. Periodical postage is paid at Thousand Oaks, CA and at additional mailing office.

**POSTMASTER:** Send address changes to **MacTech Magazine**, P.O. Box 5200, Westlake Village, CA 91359-5200.

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# MAC IN THE SHELL

by Edward Marczak

## Packaging and Installing

Simplify and scale your install methodology

### Introduction

While many systems contain a package manager, OS X's is unique, for better or worse. More and more people are now getting familiar with the graphical PackageMaker.app (and if you're not, see Jose Cruz's article in this issue). However, the GUI utility is only half the issue. Once an application is packaged, it needs to be deployed, sometimes at grand scale. Also, it's important to be able to automate updates to a package over time so new installs use the newer versions. This article talks about the command-line version of PackageMaker.app, `packagemaker`, and command-line `installer`—two tools to help get software to the masses easily and automatically.

### Earth

*Packaging* refers to placing files into a package format (which acts like a single file) that is used to install said files (the *payload*) on a target system. The graphical Packager Maker.app that ships with 10.5 developer tools is vastly improved over earlier versions. All of those improvements are brought to the command line build version. This includes the wonderful snapshot package, too.

For the sake of simplicity, let's imagine that the payload that you wish to install is contained entirely in a single directory. This can be a directory full of files, or a single application (which is, in reality, a folder full of files). We'll use the former in this example: a single directory containing some utility programs for our command line pleasure. This will need to be installed on all systems in our organization. `packagemaker` makes this a snap to package up. The simplest way to package this directory is to do the following:

Create an empty directory for general use in which to create packages.

Create another directory for the specific package to bundle up.

Place all directories and files with the correct hierarchy, permissions and owner inside of the specific directory to be packaged.

Run `packagemaker`:

```
/Developer/usr/bin/packagemaker \  
-r /Users/germ/pkgbuilds/binutils/ \  
-v -i com.radiotope.binutils \  
-o ./binutils.pkg
```

The switches used in the example direct `packagemaker` in the following manner:

- r The build root, or, the directory of files to be packaged.
- v be verbose about it.
- i specify the package ID
- o Output file.

Technically, to make command this even shorter, the `-v` and `-o` switches could be omitted. Output, by default, will be dropped in the current directory, and be named based on the root.

To watch the file system for changes, and create a package based on those changes, use the `—watch` flag. Start `packagemaker` with the `—watch`, `-o` and `-i` flags, at minimum:

```
$ /Developer/usr/bin/packagemaker —watch -v -i  
com.radiotope.binutils -o binutils.pkg  
Watching filesystem as pid: 53917. Send SIGUSR1 to stop: kill  
-SIGUSR1 53917
```

Note that you're provided the `kill` command that will properly stop `packagemaker`, and allow it perform the actual packaging. Once `packagemaker` is watching, perform the install that you'd like to package, and then send the signal using `kill`. `packagemaker` will carry on and create a package based on any files that have changed on the filesystem between the time it was started, and the time that it received the `SIGUSR1` signal. Unlike its GUI brethren, command line `packagemaker` does *not* allow an opportunity to edit the list of files that it has noted as changed. If you choose to use the `—watch` flag, ensure that you're running it at a time when the filesystem is least active.

### Fire

While `packagemaker` is effective at automating package builds, sometimes it's just plain easier to use the GUI-based PackageMaker.app to create the first revision. Package Maker.app grants greater flexibility in many cases. Gratefully, the two utilities can be combined: use PackageMaker.app to initially create a package, with the precise options necessary. This configuration can be saved as a `.pmdoc` file. The command line `packagemaker` can take a `.pmdoc` file and build a package based on the configuration options specified within. This can then be used as upgrades to the original package take place.





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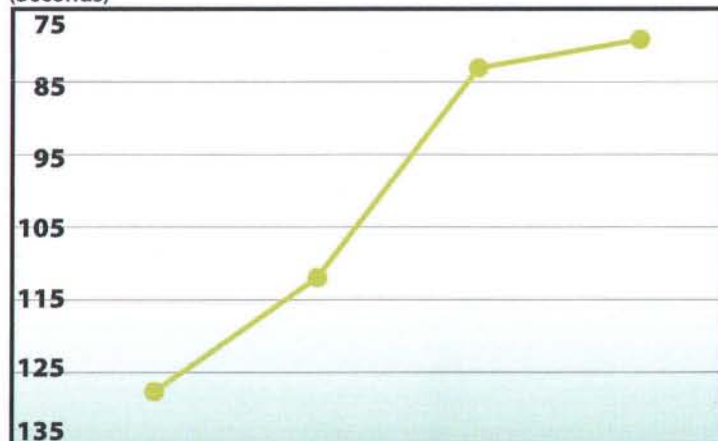
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To allow packagemaker to take direction from a .pmdoc file, use the -d, or —doc switch to specify the .pmdoc file:

```
/Developer/usr/bin/packagemaker \  
-d /Users/germ/pmdoc/Bin_Utils.pmdoc \  
-v -i com.radiotope.binutils \  
-o ./binutils.pkg
```

Any options specified on the command line override the equivalent option from the .pmdoc file.

## Water

Once packages are created, the goal is to install them on target systems. They can be brought over to a target system in many ways, but once there, they will be installed using Apple's installer. Like PackageMaker, installer comes in both a GUI and command-line version. The command-line version is the gateway to automating installs.

The basic syntax is short and sweet:

```
installer -pkg [path to package] -target [path to destination  
volume/device]
```

To install the example binutils.pkg on the current system volume, the command would look like this:

```
installer -pkg /packages/binutils.pkg -target /
```

Before installing, installer can determine which targets on the current system are valid. The -volinfo switch lists all valid volumes for a given package. Some packages have constraints on installation targets, such as "home" or "root volume only." To obtain a list of currently mounted volumes that are appropriate destinations, supply the package and volinfo switches:

```
installer -pkg /packages/binutils.pkg -volinfo
```

This output can be parsed for a valid destination.

Finally, note that the -target switch can also accept other forms of listing the destination. Also acceptable are device node entries (/dev/disk3), a disk identifier (/dev/disk1s6) or a volume's UUID. It will also accept a domain as listed in the -dominfo switch, however, since very few packages contain domain information, this method has lesser value than methods shown earlier.

## Air

The importance of the command line versions of these utilities lies in automation. Scripting tools

MacTech has run several articles that talk about AFP548's InstaDMG, a build tool to create a system image. The command line installer is at the heart of this program. An excerpt from the main script shows installer in action:

```
/bin/ls -Al $UPDATE_FOLDER | /usr/bin/sed '/.DS_Store/d' |
```



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```

while read UPDATE_PKG
do
    /usr/sbin/installer -verbose \
    -pkg "${UPDATE_FOLDER}/${UPDATE_PKG}/bin/lis
    ${UPDATE_FOLDER}/${UPDATE_PKG} | \
    /usr/bin/sed '/.DS_Store/d' \
    -target $CURRENT_IMAGE_MOUNT >> $LOG_FILE
    /bin/echo "Installed
    ${UPDATE_FOLDER}/${UPDATE_PKG}/bin/lis
    ${UPDATE_FOLDER}/${UPDATE_PKG} | \
    /usr/bin/sed '/.DS_Store/d' >> $PKG_LOG
done

```

The idea behind this except is to list all packages in a hierarchy of folders and send that list in order to `installer`, which installs each package in turn.

Another approach to automating this type of install would be using the `find` command:

```

find ${UPDATE_FOLDER} -iname "*pkg" -type d -exec installer -
pkg {} -target / \;

```

This command could also be redirected to a file (remember to specify `-verbose` in the `installer` command!) for logging purposes.

The `installer` command can also be individually distributed to OS X systems using `dshell` (see the January 2008 issue of *MacTech*), or via Apple Remote Desktop's "Send Unix" command. While ARD does have a method to directly install packages, it proves unreliable in many instances, including sending packages to machines over a WAN, and sending packages to too many machines. The number that consists of "too many" is inconsistent from run to run and environment to environment.

Rather than send one-liners, a larger, structured script can direct a machine to mount a remote disk image (using `hdiutil`),

install a package on that volume, dismount the volume and reboot the remote machine if necessary and appropriate. It can do all of this while checking for errors and reporting on progress, too.

## Conclusion

As OS X systems become more prevalent, better methods of configuration and installation need to appear in order to allow administrators the ability to serve users in a timely manner. The methods in this article can be used with or without a complete OS X infrastructure (e.g. Without OS X Server supporting directory services or more of the back-end). Automation means consistency. Possibly more important, though, is that it means timeliness and less work for administrators once set up.

Also, packaging allows an administrator to pretty much do *anything* to a target system. Since preferences and user accounts are stored as files, `installer` can overwrite them. Also, since packages can run scripts, they can perform even more sophisticated functions. Your imagination is the only limit.

Media of the month: "The Design and Implementation of the FreeBSD Operating System" by Marshall Kirk McKusick and George V. Neville-Neil. While not a perfect fit, this may be the closest thing we have to an OS X internals book. The BSD file structures all match up, along with what happens at the Unix layer. Combine this with the Mac specific (but sadly dated) *Mac OS X Internals* by Amit Singh, and you have some incredibly deep knowledge of lower level structures and system activity.

Hopefully you're reading this while attending WWDC (yes, it's that time of the year again). Or, this is providing some travel reading for you. In any case, *MacTech* will be present, so feel free to find us and say hello!

Until next month, enjoy WWDC and all that encompasses it, and keep scripting.

## References

PackageMaker Users Guide, Apple Computer.  
[http://developer.apple.com/documentation/DeveloperTools/Conceptual/PackageMakerUserGuide/PackageMaker\\_UserGuide.pdf](http://developer.apple.com/documentation/DeveloperTools/Conceptual/PackageMakerUserGuide/PackageMaker_UserGuide.pdf)  
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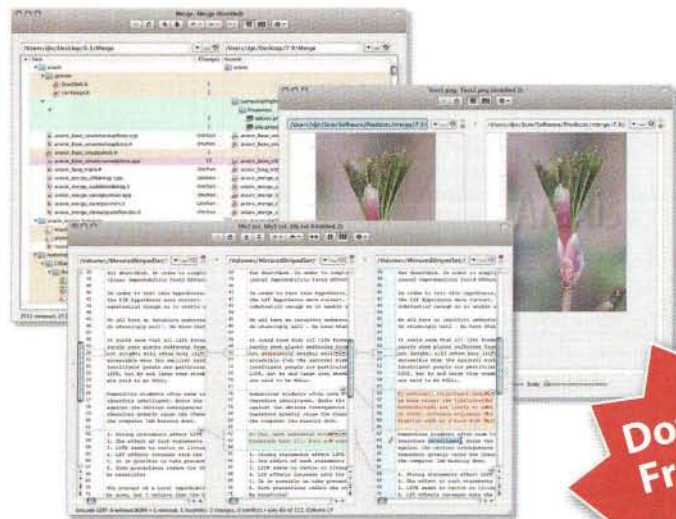


*Ed Marczak is the Executive Editor for MacTech Magazine, and has been lucky enough to have ridden the computing and technology wave from early on. From teletype computing to MVS to Netware to modern OS X, his interest was piqued. He has also been fortunate enough to come into contact with some of the best minds in the business. Ed spends his non-compute time with his wife and two daughters.*



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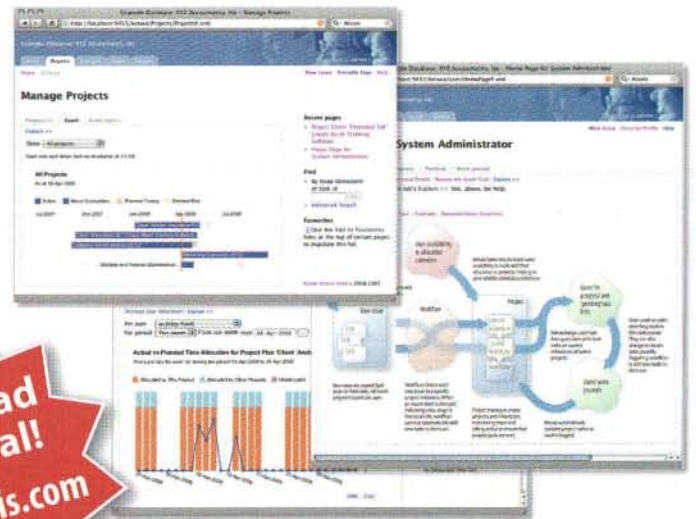
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# Printing with Leopard in the Enterprise

## Changes for Mac Administrators

By Greg Neagle, [MacEnterprise.org](http://MacEnterprise.org)



**MacEnterprise.org**

Mac OS X enterprise deployment project

### Introduction

Mac OS X 10.5 "Leopard" continues the trend of enhancements and modifications to printing on the Mac. Changes in the CUPS configuration and in the printing utilities in Leopard have the potential to simplify or complicate your environment. With a few simple changes, you can customize printing behavior in Leopard to more closely match its behavior in Tiger, and ease the transition for your users and support staff.

### More Security, More Support

Printing in Leopard largely behaves as it did in Tiger. One particular change, however, might be of interest to Mac administrators: for the first time since Mac OS X was introduced, a user must be an administrator to add and remove printers.

Presumably, Apple made this change to improve security – Leopard has many changes to increase the security of Apple's OS. For most home users, where at least one user's account is an admin account, this change really doesn't affect the user experience much. But in an enterprise environment, this change can be more problematic.

In many enterprise settings, most users do not have administrative privileges. They cannot install or remove software, and cannot make many configuration changes. This provides a more stable and secure platform for enterprise users and administrators, and makes support of these machines easier. Restricting the addition of printers to admins has the potential to increase support costs, since any time a user needs to print to a new or different printer they have to contact support.

For some organizations, making the addition of printers an administrator-only function might be a good thing, especially if you tightly control printer usage. But if in your organization, the pre-Leopard behavior is a better fit, there is a way to allow non-admin users to add printers and reduce the burden on support.

### CUPS configuration

To allow non-admins to add printers, we'll need to edit the cupsd configuration file, located at `/private/etc/cups/cupsd.conf`. You'll need to use `sudo`, and your favorite text editor. Look for this section:

```
# All administration operations require an administrator
to authenticate...
<Limit CUPS-Add-Modify-Printer CUPS-Delete-Printer CUPS-
Add-Modify-Class CUPS-Delete-Class CUPS-Set-Default>
    AuthType Default
    Require user @SYSTEM
    Order deny,allow
</Limit>
```

Remove or comment out this section and replace it with:

```
# Allow non-admin users to add printers
<Limit CUPS-Add-Modify-Printer CUPS-Delete-Printer CUPS-Add-
Modify-Class CUPS-Delete-Class CUPS-Set-Default>
    Require valid-user
    Order allow, deny
    Allow all
</Limit>
```

Now look for this section, which should be directly below the section you just modified:

```
# All printer operations require a printer operator to
authenticate...
<Limit Pause-Printer Resume-Printer Enable-Printer
Disable-Printer Pause-Printer-After-Current-Job Hold-New-Jobs
Release-Held-New-Jobs Deactivate-Printer Activate-Printer
Restart-Printer Shutdown-Printer Startup-Printer Promote-Job
Schedule-Job-After CUPS-Accept-Jobs CUPS-Reject-Jobs>
    AuthType Default
    Require user @AUTHKEY(system.print.admin) @admin
@lpadmin
    Order deny,allow
</Limit>
```



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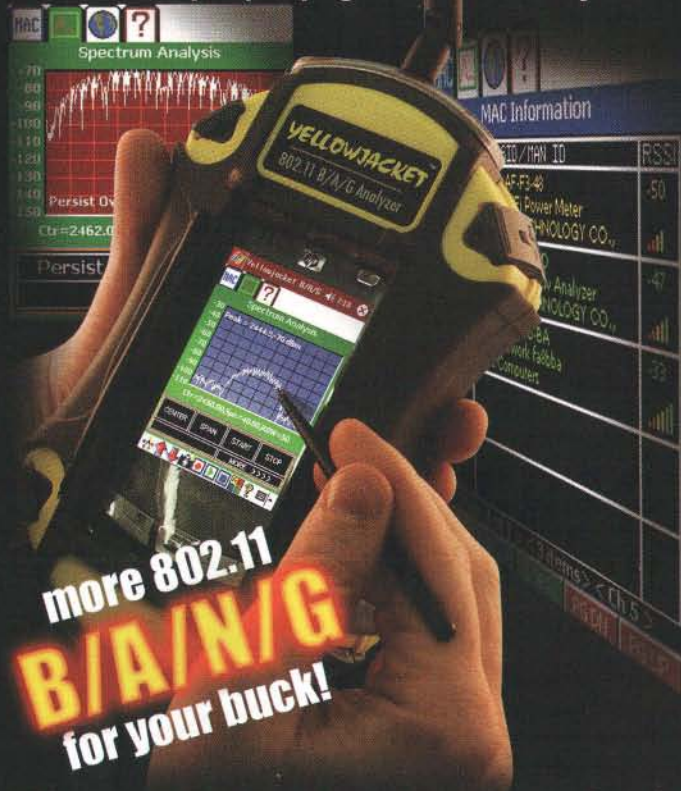
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Change it to:

```
# Allow non-admin users to pause and resume printers
<Limit Pause-Printer Resume-Printer Enable-Printer
Disable-Printer Pause-Printer-After-Current-Job Hold-New-Jobs
Release-Held-New-Jobs Deactivate-Printer Activate-Printer
Restart-Printer Shutdown-Printer Startup-Printer Promote-Job
Schedule-Job-After CUPS-Accept-Jobs CUPS-Reject-Jobs>
Require valid-user
Order allow, deny
Allow all
</Limit>
```

These changes allow any authenticated user perform the CUPS actions defined – the key actions we are interested in are adding printers and the ability to pause or resume printers. In many cases, the changes to the section to allow pause/resume may not be needed, because by default, any user who is a member of the lpadmin group can perform these functions, and all local users are automatically added to the lpadmin group when they are created. You might need this change in an environment with network accounts, where network users are not members of the lpadmin group.

Now test the changes. Login as a non-admin user and open a document. Choose **Print** from the **File** menu. The standard Print dialog will open. In the **Printer** pop-up menu, select **Add Printer...** You should be able to add a printer without being prompted for an admin password. Note that using the Print and Fax preferences pane in System Preferences still requires an admin password, so tell your users to add printers using the method described above (from the **Print** menu), or make the additional change described below to provide another way to add printers. Additionally, as the **Print** menu does not offer an option to delete printers, there is no user-friendly way to remove printers without allowing access in the preference pane.

If you want to revert your changes, you can simply copy `/etc/cups/cupsd.conf.default` to `/etc/cups/cupsd.conf` to restore the CUPS configuration to Apple's default settings.

## Replacing Printer Setup Utility

Prior to Leopard, there were at least three ways to add a printer: using the Print and Fax preference pane, using the Printer Setup Utility in `/Applications/Utilities`, and by choosing **Add Printer...** from the Print dialog in any application (which then opens the Printer Browser in the Printer Setup Utility).

In Leopard, Apple has simplified matters somewhat by removing the Printer Setup Utility. This may confuse your users who you've upgraded from Tiger. If they are not admin users, the Print and Fax preference pane will be of no use to them, either. You can of course tell them to use the **Add Printer...** item in the Print dialog. But you may want to increase the chances they'll figure things out for themselves by partially restoring the missing Printer Setup Utility.

We'll do this by creating a symlink in `/Applications/Utilities` named "Printer Setup



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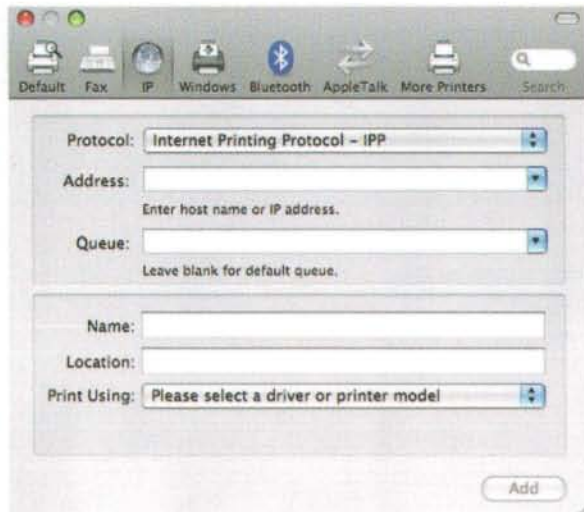
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Utility.app" that links to the AddPrinter application in /System/Library/CoreServices:

```
sudo ln -s /System/Library/CoreServices/AddPrinter.app \
/Applications/Utilities/Printer\ Setup\ Utility.app
```

Now when you users go looking for a tool in the Utilities folder to help them add a printer, they'll find one.



AddPrinter.app

This isn't a perfect solution. AddPrinter doesn't act like a standard application, since it wasn't designed to be one. It doesn't have a menu bar, it doesn't appear in the Dock, and it doesn't automatically come to the front when opened. This may confuse your users. You may want to decide whether or not making it available in this way will lessen your support burden or increase it.

## Conclusion

If Leopard's printing changes have caused support issues in your environment, you now have a few tools to use to help your users help themselves!



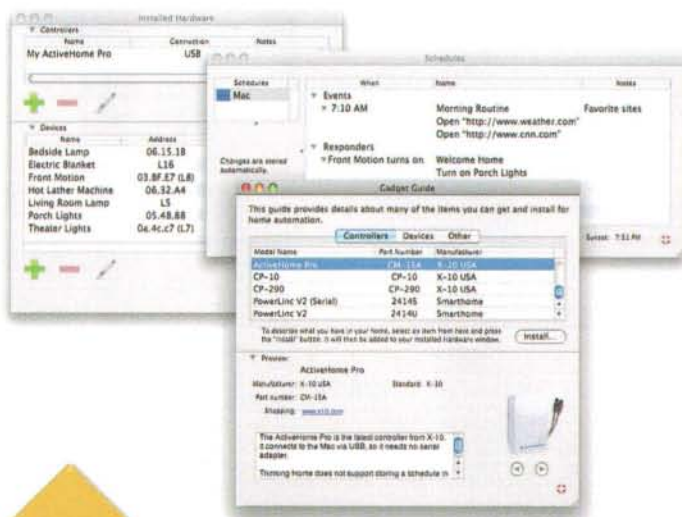
## About The Author

*Greg Neagle is a member of the steering committee of the Mac OS X Enterprise Project ([macenterprise.org](http://macenterprise.org)) and is a senior systems engineer at a large animation studio. Greg has been working with the Mac since 1984, and with OS X since its release. He can be reached at [gregneagle@mac.com](mailto:gregneagle@mac.com).*

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# Web Development for the iPhone

by Rich Warren

## Why Web Development?

Let's start with the obvious question. The iPhone SDK gives us the ability to make native applications. Why should anyone bother writing web apps anymore?

Well, web applications have a few advantages over their native counterparts. For example, you don't need to install anything on the iPhone. The application and all its data live on the server. I don't know about you, but my iPhone usually stays around 90% filled. At least for the foreseeable future, disk space on phones will remain at a premium.

Having the data on the server also makes it easier to collaborate with others. Instead of emailing documents back and forth, everyone just logs in and works online. Similarly, web applications enable social networking and wisdom-of-the-crowd applications.

Having the application on the server also makes it easier to push out updates and bug fixes. Your users don't need to download and install the updates. You just change the code on the server. Everyone is updated automatically.

For its part, the iPhone looks like a desirable market for web applications. The iPhone has near-ubiquitous web access. You are not tethered to a LAN or wireless hotspots. Additionally, most people keep their phones with them almost all the time.

Also, the iPhone provides an easy-to-target platform. We know the screen size and resolution. We know the browser. We don't need to build and test against dozens of different hardware and software combinations. At least, not yet.

While iPhones still represent a small fraction of the total web traffic—it is a growing percentage. If you have an existing web site or web application, you may want to target iPhone users by building a web interface especially for them.

Finally, Apple must approve all native applications before they can be sold on iTunes. Web applications do not require approval. All you need is a little server space, and a willingness to hack HTML. This gives you more freedom in how you market and sell your software. For example, you can play around with different pricing models, anything

from begging for donations to recurring subscription fees. As an added bonus, you don't have to share the proceeds with anyone.

Throughout the rest of this article, we will look at tips and tricks for developing web sites for the iPhone. Apple has identified three typical development scenarios: compatible, optimized and application. The article will follow this structure. We will start by discussing how you can ensure your web pages are compatible with the iPhone. We will then look at optimizing a web page to provide the best iPhone experience. Finally, we will talk about building iPhone-specific web applications.

## Compatible

Basically you should use established web standards, and make the web site compatible with Safari 3. Currently, Apple recommends the following:

- HTML 4.01 or XHTML 1.0
- CSS 2.1 and partial CSS3
- JavaScript (ECMAScript 3)
- Ajax (including XMLHttpRequest)
- If it works on Safari 3, it will work on the iPhone.
- Unless it doesn't.

While it's true that the iPhone uses Safari 3, the iPhone version is not exactly the same as the desktop. They are pretty close, and you can (and probably should) use the desktop version of Safari for development and initial testing. However, you will eventually find a few, rather important differences.

For example, the iPhone sets strict limits on resources. You can only open 8 pages (the equivalent of 8 open windows). Any downloaded resource (not including streamed-media) must be less than 10 MB. And, all JavaScript must take less than 5 seconds to execute.



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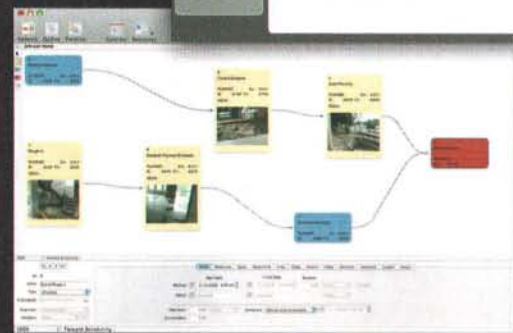
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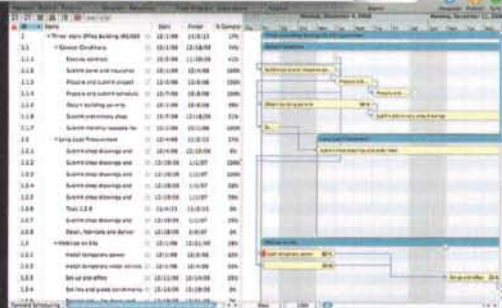
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There's no mouse cursor. You don't really have windows or scroll bars, and pop-up windows are blocked by default. You cannot print from the iPhone, and you cannot access the file system (that means no uploads or downloads).

Additionally, Safari on the iPhone does not support the following:

- Java Applets
- Flash
- SVG
- XSLT
- Plug-ins
- Custom x.509 certificates
- WML
- Mouse-over events
- Hover styles
- Tool Tips
- `window.showModalDialog()`

Fair enough, but what does it support? The iPhone can view (but not edit) PDFs, Word documents, Excel documents and text files. We can also use the `<canvas>` tag for vector animation. Canvas allows us to define a drawable area on the web page. It was originally developed by Apple for the Web Kit, and has been used in many Dashboard widgets. Recently, several other browsers have added canvas support, including Firefox and Opera. For more information, check out the *Web Kit DOM Programming Topics: Using the Canvas* at <http://developer.apple.com>.

As an iPod, we expect the iPhone to support a wide range of media. Audio is rather lenient. It supports several different formats, including AAC, MP3, AIFF and WAVE. However, creating video for the iPhone requires a bit more thought.

The phone has a 480 x 320 screen. Users can toggle between full screen mode (where the image is centered and cropped) and letterbox mode, where the image is padded as necessary. Apple recommends scaling your video so that it fits within a 480 x 360 rectangle, while still maintaining the original aspect ratio.

The iPhone supports .mov, .mp4, .m4v, and .3gp video files. It also supports the following compression standards: H.264 Baseline Profile Level 3.0, up to 640 x 480 at 30 fps (B frames are not supported).

MPEG-4 Part 2 (simple profile).

AAC-LC audio, up to 48 kHz.

Detailed instructions for creating and embedding video can be found in the *Safari Web Content Guide for iPhone: Creating Video* at <http://developer.apple.com>; however, here's the quick and dirty version.

While you can set the video encoding options by hand, it's much simpler to use an application with iPhone presets. The easiest options are QuickTime Pro 7.2.1 and iMovie '08. Both allow you to automatically export videos that are



# It's always nice to have multiple options.



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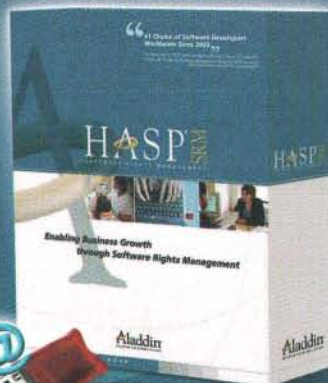
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optimized for the iPhone. These presets provide two different options, a lower quality that is suitable for watching over an EDGE connection, and a higher quality for wireless access.

You need to export a version for each format you wish to support. You probably want at least iPhone Edge, iPhone wireless and one or more desktop versions.

But, now that we have three or more copies of the same video, how do we host them? Obviously we could offer a link for each version, and just let the users decide. But, that's just asking for trouble. Sooner or later, someone will pick the wrong version, and then post a blog entry about how your site sucks.

Fortunately, there's a better way—QuickTime reference movies. Basically a reference movie is a collection URLs, each with a series of tests. QuickTime automatically checks the capabilities of the connected device and the network speed. It then selects the best movie based on these tests.

QuickTime Pro 7.2.1 automatically creates reference movies when you export web content. Select **File > Export for Web**. In the dialog box, provide a name and location for your movie. Make sure all three versions (iPhone, iPhone (cellular) and Desktop) are selected. Choose the desired poster image option, then export. QuickTime will automatically create optimized versions of the video for

each selected format, a reference movie, a poster image and a ReadMe.html file for your videos.

iMovie '08 only exports one format at a time. For these, export all the versions you wish to use. Then manually build the reference movie using the MakeRefMovie utility. You can download this from <http://developer.apple.com/quicktime/quicktimeintro/tools/>.

Note: you may want to use MakeRefMovie, even if you have QuickTime Pro on your system. MakeRefMovie gives finer grain control over the tests. You can set the desired network speed, the language, the CPU speed and more. You can also explicitly set the priority for each version in the reference movie. Finally, you can mark versions as iPhone only.

Finally, to actually host any media files, you must configure your server to use byte-range requests. The iPhone uses these requests for random access of media files. Fortunately, most HTTP 1.1 servers already support byte-range requests, so you should be OK. Just keep this in mind, if your video or audio doesn't work.

For the complete list of supported audio and video, check out the *Safari Web Content Guide for iPhone: Use Supported Rich Media MIME Types* page at <http://developer.apple.com>.

## Optimized

Optimized web sites are specifically designed to work with the iPhone. They must still consider all the compatibility issues mentioned earlier, but now we custom build each web page for the iPhone's screen. The layout takes advantage of the iPhone's shape and size, while user interface elements make touch-based interactions easy. And, the sites focus on just those features that users really want to access on the run.

Apple makes the following recommendations for text:

- Use a 17px to 22px fonts.
- Use **bold** for emphasis and to delineate lists, show hierarchy or sort order.
- Make labels as succinct as possible. They should start with a capital letter. Do not end with a colon.
- Left align text, especially in lists.
- Avoid using underlines in links. It can make the text appear crowded.

Remember, we are working with a very small size, and potentially over a very slow network. We don't want to send more bits over the air than necessary. In general, images should be reduced to fit on the screen. If you want to provide a larger image (so the user can zoom and pan over them), you can create a link from the smaller placeholder.

Controls, on the other hand, need to be big enough to touch easily. I would recommend making the active area at least 40 x 40 pixels.

And, remember, a lot of the screen may be taken up by the Safari's controls. The size of various built in components are listed below:

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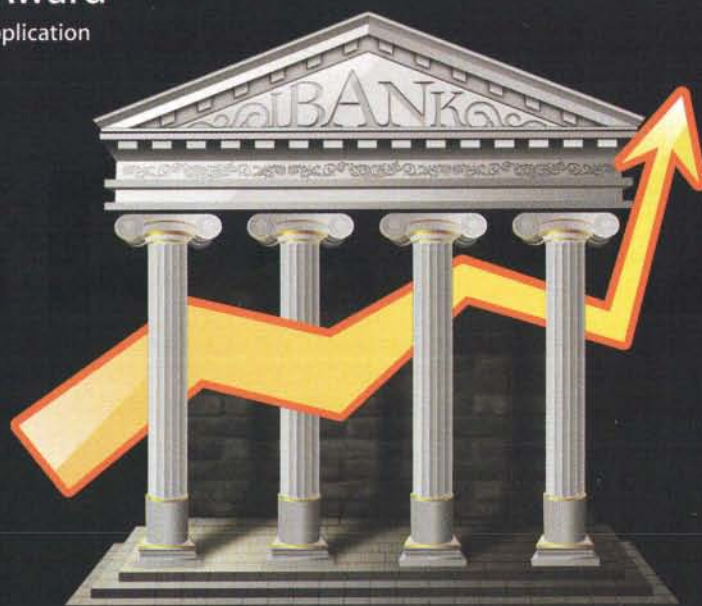


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Control	Portrait	Landscape
Status Bar	20 px	20 px
URL Text Field	60 px	60 px
Button Bar	44 px	32 px
Keyboard	216 px	180 px
Form Assistant		
Buttons	44 px	44 px
Total Height	480	320
Total Width	320	480

Best-case scenario, you've got the iPhone portrait with only the status bar and button bar showing. This gives you a maximum of 320 x 416 px. If the keyboard is displayed, the screen space drops to 320 x 156 px. Landscape, you would have 480 x 268 px and 480 x 44 px respectively. Plan accordingly!

Also, you may have noticed that the iPhone has a somewhat unique user interface. We've already mentioned that there's no mouse. No mouse means no mouse pointer, and this means you cannot use hover events in your page.

We don't have scroll bars. While the iPhone's flick scroll is fine for short documents, flipping to the 400th page in a PDF gets old fast. The lack of scroll bars also means the users may not realize that there is additional information off the screen. So, you may want to break things up into screen-sized chunks.

Additionally, we don't have a keyboard. Not really. Don't get me wrong, the iPhone's virtual keyboard is nice, but it's no replacement for the real thing. Typing on the phone can be slow and error-prone. Try to limit the amount of information that users must type. If possible use drop down menus, or remember their information and reuse it the next time they visit your site.

Finally, the users often treat the iPhone differently than a desktop browser. With the iPhone, the Internet is available almost anywhere, but it might be painfully slow. So, focus on a few key features—things users might want to access quickly while running around town. Also, keep the pages as light as possible to improve load times.

OK, you've got the basic layout down, but how do you serve it? You have two options. The easiest approach is to build an entirely separate set of pages that are optimized for the iPhone, and have them accessible through a special URL. Of course, when I say simple, I mean the setup is simple. You still need to ensure that all iPhone visitors know about your special URLs. Good luck with that.

Alternatively, you can make your site automatically serve iPhone content to iPhones, and desktop content to desktops. We'll look at two methods for doing this. First, we will automatically send iPhone-only CSS style sheets to the iPhone. Then, we'll scan the user agent string and determine what type of browser we're dealing with.



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## iPhone Specific CSS

Sometimes you can optimize your site by just providing different CSS style sheets for the different browsers. We do this through the media link. Note: however, this is not an exact science. We use the browser's minimum and maximum widths to infer the browser type. However, other mobile devices may have similar sized screens. This may or may not cause problems, depending on the page's content and layout.

The following link will load an iPhone specific style sheet:

```
<link media="only screen and (max-device-width: 320px)"
      href="iphone.css" type="text/css" rel="style-sheet">
```

The desktop version can be loaded as follows:

```
<link media="only screen and (min-device-width: 321px)"
      href="iphone.css" type="text/css" rel="style-sheet">
```

You can even combine min-device-width and max-device-width to further restrict the choices.

```
<link media="only screen and (min-device-width: 320px)
      and (max-device-width: 320px)"
      href="iphone.css" type="text/css" rel="style-sheet">
```

Note: even though the iPhone has a 480 px width while in landscape mode, it always loads the CSS style sheet for 320 px wide media. So, you cannot use the media link to distinguish between portrait and landscape mode.

One of the main advantages of working through CSS is that you do not need to write any server-side code. The browser handles everything automatically. However, CSS is limited. You can change the look and feel of the web page, but to really alter the content, you may need something more.

## Parsing the User Agent

Many web sites are built using JSP, PHP, Ruby on Rails or some other web-programming platform. All of these can scan the browser's user agent before programmatically building your web page. If the browser is an iPhone or iPod Touch, the application builds an iPhone-specific page. Otherwise it builds a regular page.

In general, parsing the User Agent string (also called "browser sniffing") is frowned upon. It's better to use Object Detection (where you check the browsers capabilities, rather than the browser type). However, when you're working on something as specific as the iPhone, sniffing may make sense. The iPhone is different enough in both its form factor and capabilities, it deserves special treatment.

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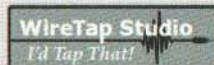
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The iPhone's user agent should appear similar to the following:

```
Mozilla/5.0 (iPhone; U; CPU like Mac OS X; en)
AppleWebKit/420.1 (KHTML, like Gecko) Version/3.0
Mobile/4A102 Safari/419.3
```

This can be broken into the following segments:

Segment	Substring
Platform String	(iPhone; U; CPU like Mac OS X; en)
Web Kit Engine	
Build Number	AppleWebKit/420.1
Safari Family Version	Version/3.0
Mobile Version Number	Mobile/4A102
Safari Build Number	Safari/419.3

It is probably simplest to just search the user agent for "iPhone". Of course, the iPod Touch uses a different platform string, (iPod; U; CPU like Mac OS X; en). If you want to support both, you will need to look for both versions. Likewise, if Apple ever releases the mythical PDA or tablet sized touch screen device, it will probably have its own user agent. Now, we start to see why browser sniffing can become a problem.

## To Sniff or Not To Sniff

Personally, I like web sites that automatically serve up iPhone specific versions, but that's not a universal preference. The Safari browser does a good job handling most content, and some users feel cheated when they see stripped-down pages. They want the full version with all the bells and whistles.

Therefore, it's usually a good idea to provide easy-to-find links between the iPhone and full versions. If you really want to make the users happy, remember which version they last visited, and give it to them when they return.

## Application

Alright, now it's time to build actual web application for the iPhone. Of course, the dividing lines between compatible pages, optimized pages and full-bore web applications is hazy at best. Basically, a web application is just like an optimized page, only more so.

Applications should be even more focused. We often talk about feature creep in desktop applications—but a desktop application can afford a bit of bulk. We have more screen space for things like complex toolbars and long menus. Applications on the iPhone do not have this luxury. The best developers strip their applications down to the



## Mobile email

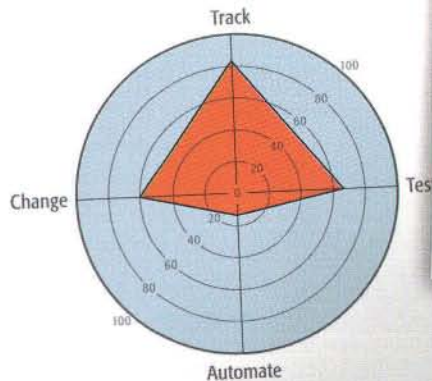
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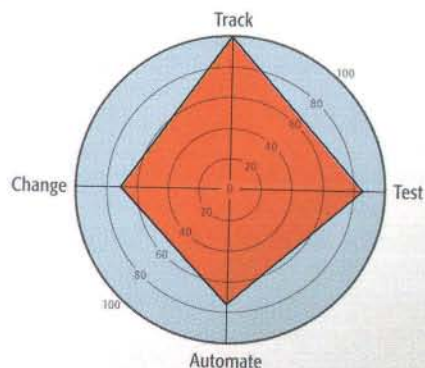


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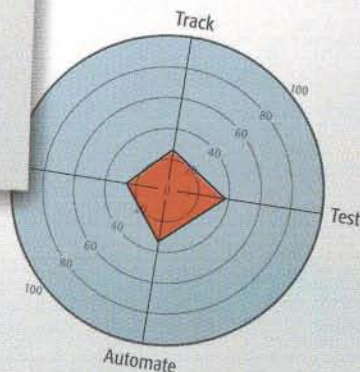
- Not prepared for an audit
- Little or no automation

## Seapine Software Quality-Ready Assessment



- Audit-ready development artifacts
- Strong testing methodology and automation

## Seapine Software Quality-Ready Assessment



- Lacking in most areas of quality
- Probably an "It's good enough" organization

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bone. Bottom line, resist the urge to add features for features sake.

Almost by definition, the application should be interactive, and it needs to respond quickly to the user. That almost certainly means using AJAX for much of the interface.

One of the key differences between a web application and an optimized web page is that the application tries to mimic the look and feel of the other, native iPhone applications. As much as possible, your web application should not feel like just another web page.

For example, iPhone's ability to zoom through a double tap or a pinch is impressive—but it is not used in most native applications. The interface simply fills the screen's width, and only vertical scrolling is allowed.

We can prevent zooming and horizontal scrolling in our web applications by adding the following meta tag to our HTML's header:

```
<meta name="viewport" content="width=device-width;
initial-scale=1.0; maximum-scale=1.0; user-scalable=0;"/>
```

Now, we want to make the page look like an iPhone application. Fortunately, we don't need to create all the CSS and JavaScript code ourselves. Joe Hewitt has released a small collection of graphical elements, CSS style sheets and JavaScripts that mimic the iPhone's native look and feel. His iUi project can be found at <http://code.google.com/p/iui/>.

To use iUi, simply link your page to the CSS and JavaScript files. Your web page can contain both hidden and visible elements. Indicate the initially visible elements by setting their selected attribute to true. Use anchor links to navigate between elements. The scripts handle everything else automatically. Here's a quick sample:

### Sample iUi Application

This shows a simple, two page iUi application. The iUi framework starts by displaying the home <ul>. JavaScript handles transitions between #home and #next, sliding the pages in from the left or right, as appropriate.

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">

<html>
  <head>
    <meta name="viewport" content="width=device-width;
      initial-scale=1.0; maximum-scale=1.0; user-
      scalable=0;"/>

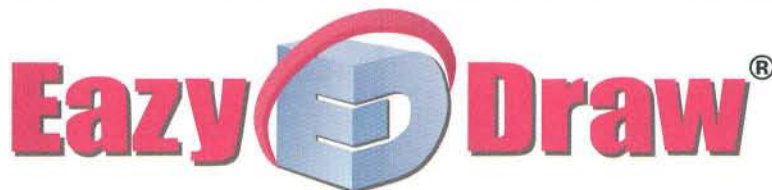
    <style type="text/css" media="screen">@import
    "iui/iui.css";</style>
    <script type="application/x-javascript"
    src="iui/iui.js"></script>

    <title>My iPhone App</title>

  </head>
```

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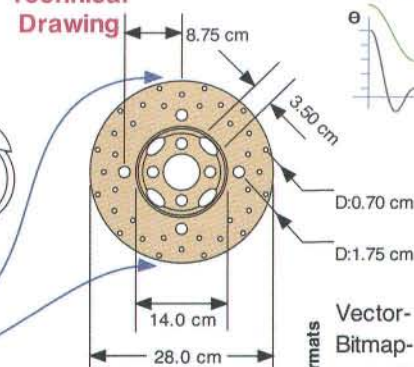
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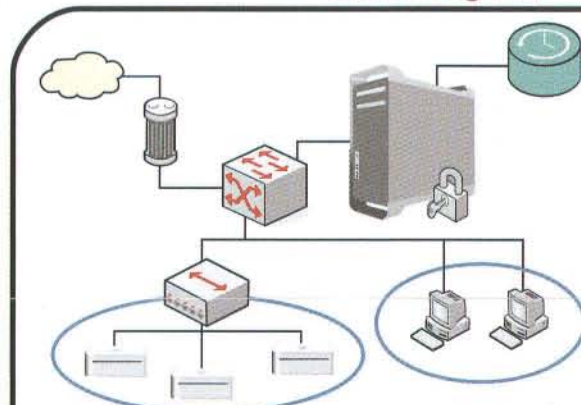


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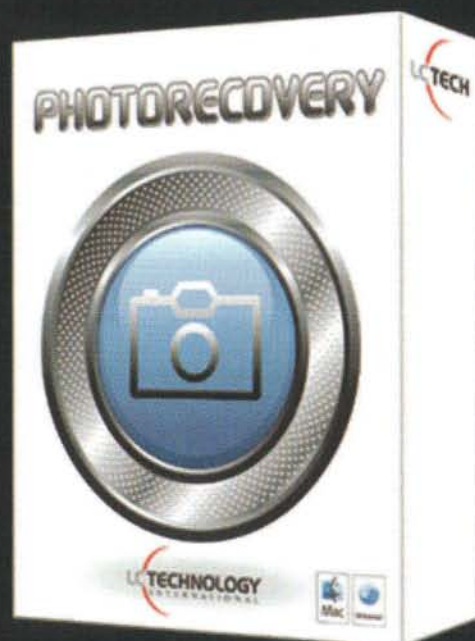
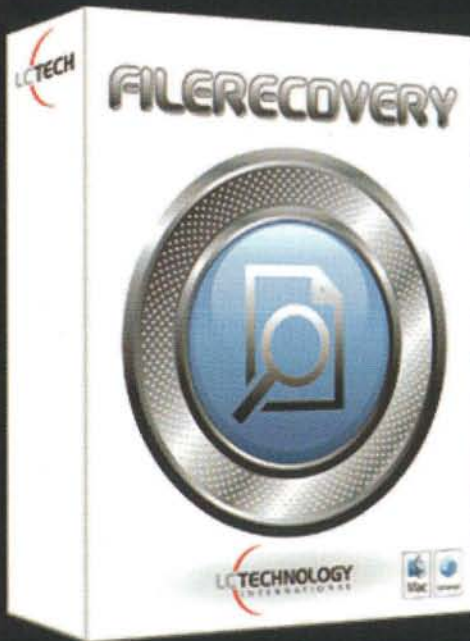
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```

<body>
  <div class="toolbar">
    <h1 id="pageTitle">Fake App</h1>
    <a id="backButton" class="button"
href="#"></a>
    <a class="button" href="#next">next</a>
  </div>

  <ul id="home" title="My List" selected="true">
    <li><a href="#next">This is a list</a></li>
    <li>It is a really cool list</li>
    <li>Just a little short...</li>
  </ul>

  <div id="next" title="The Second Page"
class="panel">
    <h2>My Group 1</h2>
    <fieldset>
      <div class="row">
        <label>This is still a list.</label>
      </div>
      <div class="row">
        <label>It is still pretty cool.</label>
      </div>
    </fieldset>
    <h2>My Group 2</h2>
    <fieldset>
      <div class="row">
        <label>But it's a bit more
complicated,</label>
      </div>
      <div class="row">
        <label>As you can see...</label>
      </div>
    </fieldset>
  </div>
</body>
</html>

```

As you can see, the first div creates our toolbar. Initially it has a single button, **next**. The application starts with the unordered list visible, and both the first item in the list and the next button are linked to the next div.

The next div is not visibly initially. However, it will slide in when either the next button or the first list item are pressed. It displays an iPhone grouped list.



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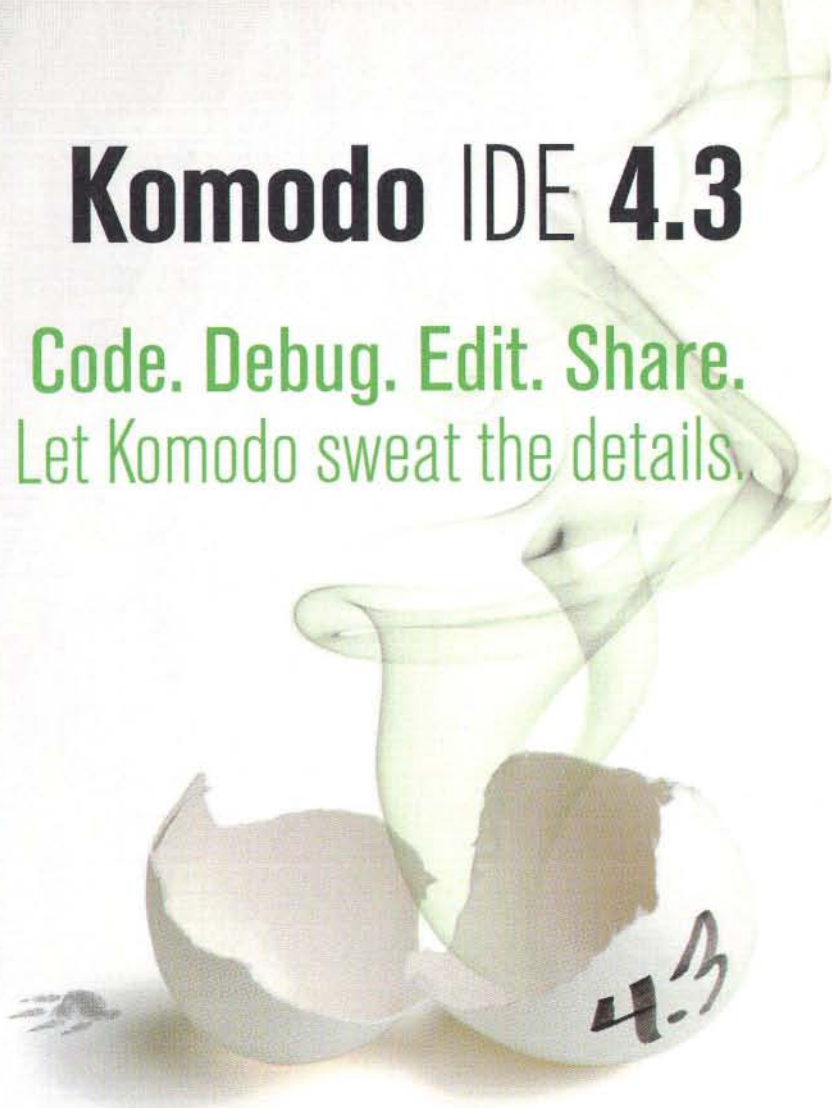
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## Connecting to Other Applications

Not all web applications are an island. We can leverage some of the native applications through specialized URLs. Specifically, we can access the phone, Mail, Map and YouTube.

Let's start with the simplest. By default, Safari automatically detects phone numbers and converts them into links. The user just clicks the link to call the number.

We can turn off this auto-detection using the following meta tag:

```
<meta name="format-detection" content="telephone=no">
```

We can also manually create phone links:

```
<a href="tel:1-800-123-4567">1-800-123-4567</a>
```

Accessing the Mail application is almost as easy. Just use the mailto: link. Remember, we can fill in more than just the To: address.

```
<a href="mailto:john.doe@anonymous.com?cc=jane.doe@anonmous.com&subject=New%20Application&body=guest%20account">request guest account</a>
```

We can launch the Map by linking directly to Google maps. This has two formats. The first will place a single pin at the given location. The second will create a route between the source and destination. Both are shown below:

```
<a href="http://maps.google.com/maps?q=honolulu,+HI">Honolulu</a>
```

```
<a href="http://maps.google.com/maps?daddr=waikiki,+HI&saddr=airport+honolulu,+HI">To Waikiki</a>
```

We can also launch the YouTube application by creating a link containing the video identifier. This has two equivalent forms:

```
<a href="http://www.youtube.com/watch?v=Yz1-cPx0cIk">60 Second Keynote</a>
```

```
<a href="http://www.youtube.com/v/Yz1-cPx0cIk">60 Second Keynote</a>
```

Note: however, you cannot embed the video in your page. Embedded YouTube clips require Flash, which is not yet available on the iPhone. If you want to put iPhone compatible videos on your web page or in your web application, you must use one of the links above.

Finally, to give our pages that real application feel, we should create a web clip icon for our application. Icons should be 57 x 57 pixels. Note: Safari will add a glassy



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overlay to our icon, to help it match the native iPhone icons. So, don't be surprised if it looks a little different.

To set a default icon for the entire site, place a PNG image named "apple-touch-icon.png" at the root directory of your web server. This is similar to setting a site's "favicon.ico" icon.

We can also override the icon for a specific page by adding the following to the page's header:

```
<link rel="apple-touch-icon" href="/myIcon.png"/>
```

That's it. Publish your application to a public server, and your application is deployed.

## Development Tools

Web development often includes multiple pieces written in different languages. We use HTML for the content, CSS for the layout. We create dynamic content using a programming language (etc PHP, Java, Ruby, Python), and manage interactive bits using JavaScript.

A mistake in any part of the page can create bugs for our application. Unfortunately, this mishmash of techniques and technologies can make it hard to find and fix the problem. Fortunately, we have a number of powerful tools at our fingertips.

### iPhone Console

First and foremost, we can turn on the iPhone's debug console. Launch the **Settings** application. Tap **Safari**, then

scroll down and tap **Developer**. Once there, we can toggle the Debug Console on and off.

The console will log error messages and development tips for HTML, CSS and JavaScript. We can also explicitly send messages using JavaScript. There are four message levels: log, info, warn and error. However, info is the same as log. It was just provided for backward compatibility.

### Sample Console Messages

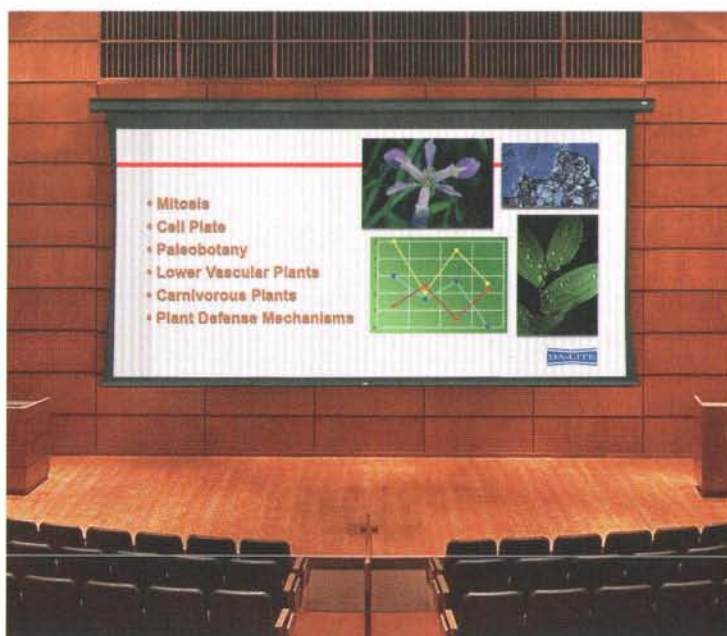
This shows the four different types of console message. Again, log and info messages are functionally equivalent. They will appear the same on the iPhone.

```
console.log("this is a log message");  
console.info("this is an info message");  
console.warn("this is a warning");  
console.error("this is an error");
```

When the console is active, Safari will show a banner over the web page. The banner will either list the number of messages, or simply state **No Errors**. If you have messages, you can click on the banner to view the complete list. Once in the console window, you can filter the message to see only HTML, CSS or JavaScript.

Note: the banner is only visible when the URL text field is visible. If your application automatically scrolls the URL field off the screen, you will need to scroll back up to find it.

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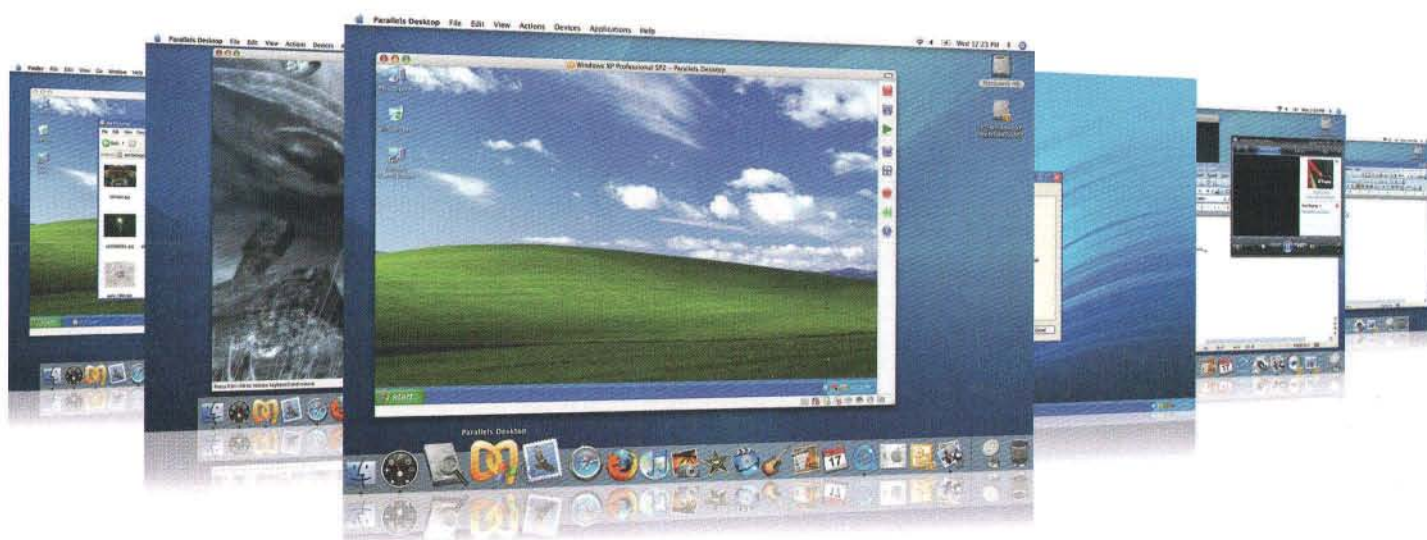
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## Web Inspector

Safari also comes complete with a full debugging suite. However, these options are hidden by default. To turn on the Develop menu, enter the following at the command line:

```
defaults write com.apple.Safari IncludeDebugMenu 1
```

The Develop menu gives you a number of options. You can open the current page with another browser. You can set your user agent string, letting you mimic other browsers. You can even disable everything from the caches to CSS and JavaScript.

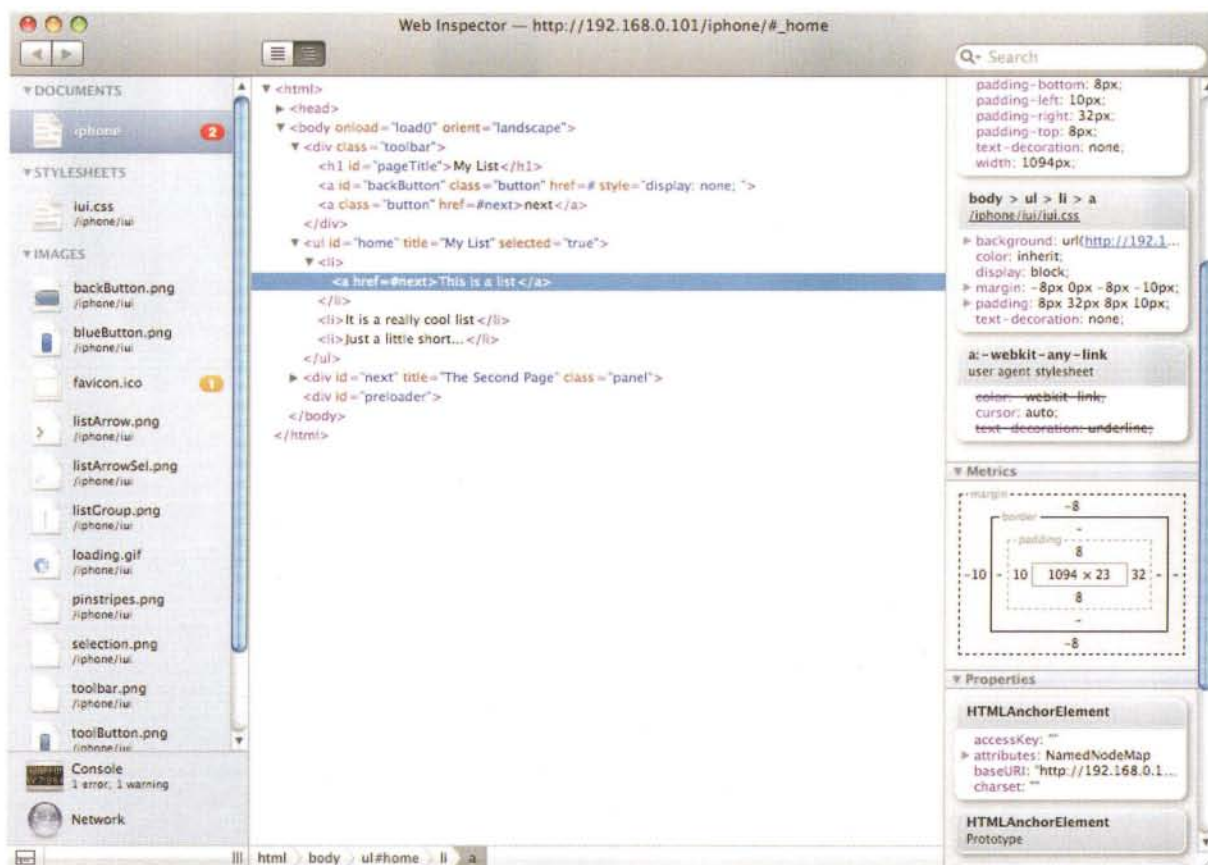
Most importantly, however, you can launch the Web Inspector. The Web Inspector is your own, personal CSI lab for investigating web page problems. It has three main views: Inspector, Error Console and Network Timeline.

The Inspector shows all the resources loaded with this web page. All the html files, CSS sheets, script files, images, whatever. You can look at each one. Images are displayed as they will appear on screen. CSS and scripts show the complete source code. However, the HTML view is by far the coolest.

You can view HTML as either raw source or a DOM tree. The source view provides a nice syntax-highlighted view of the source code, but there's really nothing special here. The true magic comes from the DOM tree.

When you click on an element in the DOM tree, it will highlight the corresponding portion of the web page in Safari. This lets you easily, visually match code to content. The right sidebar also show you the computed or inherited styles for the selected node; the border, margin and padding for the node, and any properties.

Finally, Safari includes a handy shortcut for inspecting particular parts of the page. Right click on any item in the web



Web Inspector

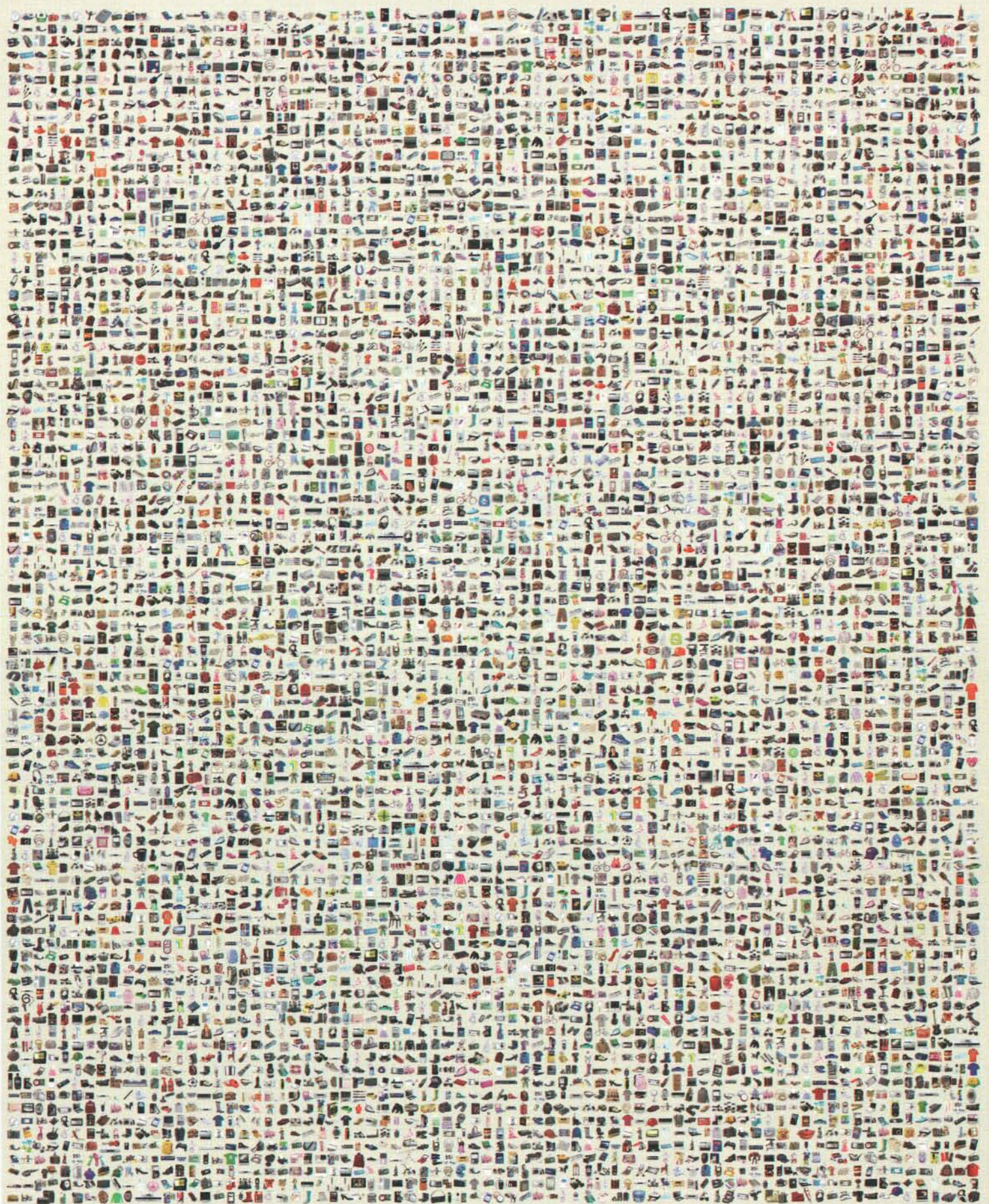


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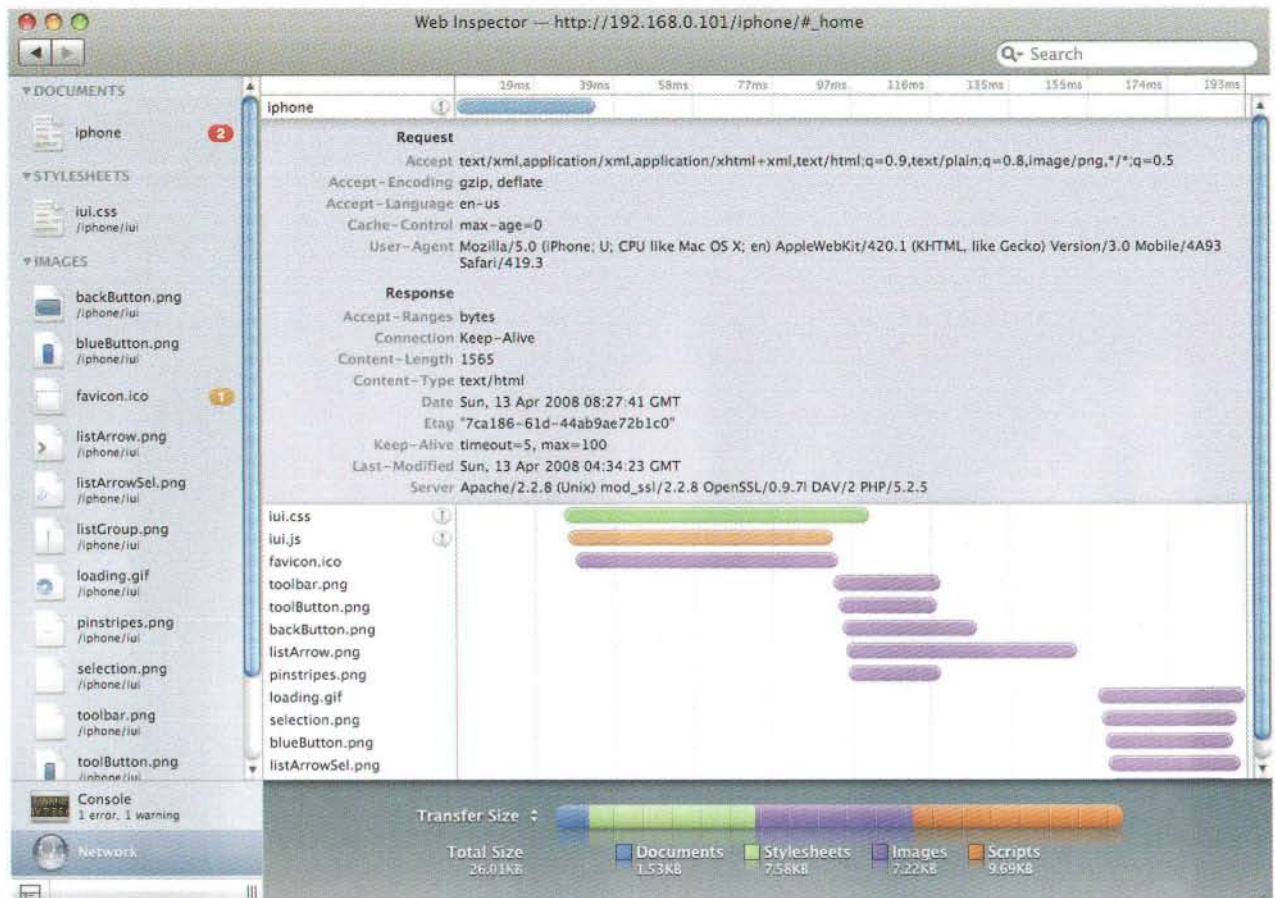
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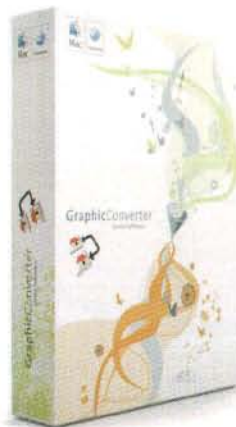






## Network Timeline

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page, and select Inspect Element. The Web Inspector will automatically open to that node in the DOM tree.

Next we have the Web Inspector's Console view. This displays console messages—just like the console on the iPhone. Again, useful, but nothing special here.

However, the Network Timeline is a nice touch. This gives us detailed information on how the page loaded: The order in which each resource was downloaded, and the amount of time each resource took. It also displays the total size for each type of resource. Finally, if you click on any row, it will give you detailed information on that particular HTTP request and response.

The information provided by the Network Timeline could be vital for optimizing web pages for iPhones over the slower Edge network.

## Drosera

While the other tools are nice, if you are serious about JavaScript, you need to download and install Drosera. Drosera is a JavaScript debugger. It works just like any code debugger. You can view the JavaScript source code, set break points (including conditional break points), and step through and inspect your code.

Drosera can attach to any WebKit application, including Safari. Unfortunately it is not included in OS X, not even in the developer tools. However, it comes bundled with the WebKit nightly builds.



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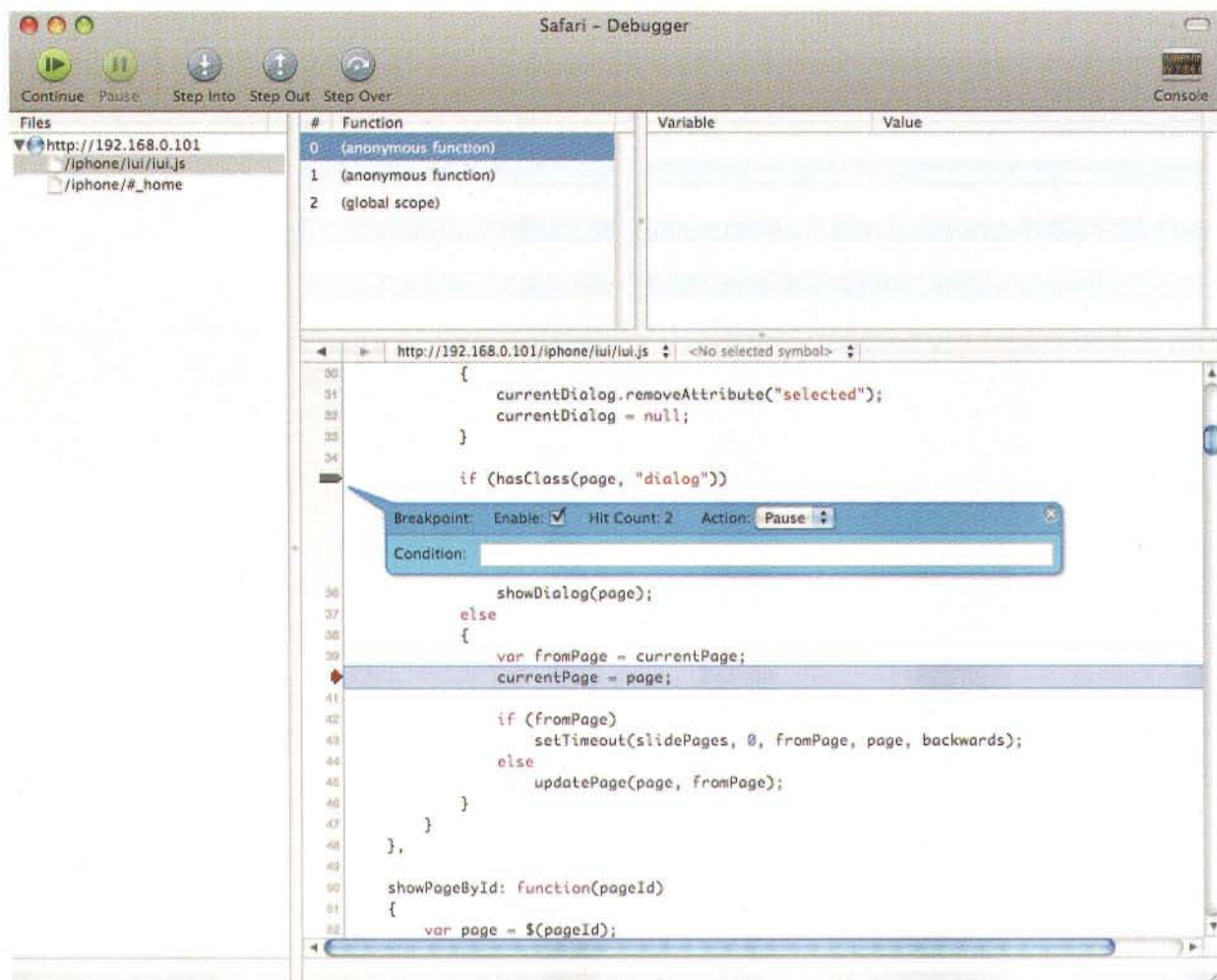
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## Drosera

Download the nightly build from <http://webkit.org/>. Then copy both the WebKit and Drosera to your application's folder. You can already attach Drosera to the WebKit. To debug from Safari, just enter the following at the command line:

```
defaults write com.apple.Safari WebKitScriptDebuggerEnabled -bool true
```

Open Safari. Open Drosera and attach it to Safari. Now open a web page. Set your breakpoints, then reload the web page.

Unfortunately, Drosera still feels a bit buggy at times. It can lose track of script files, and often fails to show the variables. But, even when it misbehaves, it's a great tool to have in your toolbox.

## iPhone Emulators

While you can run iPhone web apps in any Safari 3.0 browser, it's often nice to see it in an emulator—just to make sure everything looks right.

Fortunately, Apple has provided a great simulator. Currently it is only available as part of the iPhone 2.0 SDK Beta. Just sign up as an iPhone Developer, download the SDK and install it.

Of course, you might have trouble finding the simulator. They've tucked it away at `/Developer/Plat-`

`forms/iPhoneSimulator.platform/Developer/Applications/iPhoneSimulator.app`. Find it, launch it, love it.

There's really only one, temporary drawback to all this. The simulator uses the new iPhone 2.0 OS. So, you may find some differences between the current version of Safari on the iPhone and the upcoming 2.0 release. Of course, you're testing your application on an actual phone as well, right? So no worries.

## Conclusion

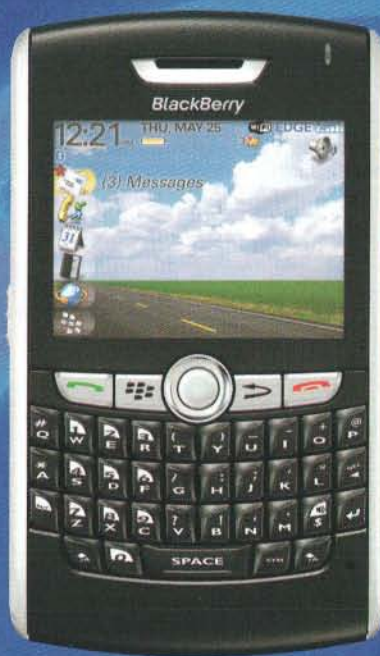
Ok, maybe they're not native applications. But, maybe that's not such a bad thing.

The iPhone is a natural target for many web applications. It's like carrying the internet in your pants pocket. I don't know how many times I've used my phone to settle bar bets. Ok, not exactly bar bets, more like coffee house bets—but it helps me swindle the last bite of triple-chocolate chunk cookie from my daughter.

While iPhone's version of Safari handles most web pages, optimized pages and web applications really improve the browsing experience, especially over Edge. Most web sites could benefit from building an iPhone specific interface (I'm looking at you, Wikipedia).



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Sure, the iPhones still represent a small percentage of total web traffic—but it's a steadily growing percentage. And, face it, it's a desirable target market. If you can afford to drop \$400 on a phone, you probably have a little extra cash for other things as well (that or really gullible parents).

Additionally, we don't need Apple's permission to make and publish our web applications. The web is still free—or at least, reasonably priced. Web applications may not have the full power and crispness of a native application, but they're also not locked down.

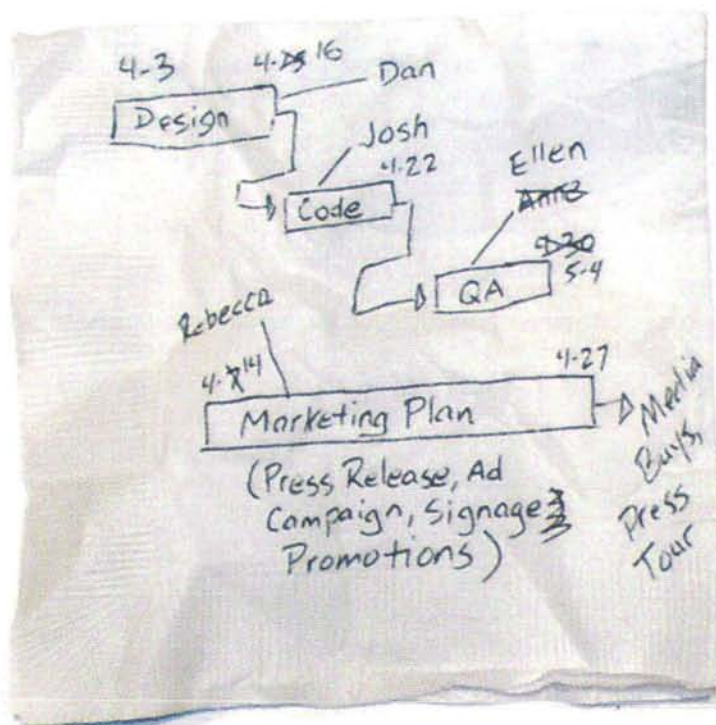
Finally, we have a number of excellent tools that will let us create high-quality iPhone-specific web sites.

So, they may not get as much press as the native applications, but web applications still contribute to the iPhone ecosystem. They fill a niche that is not going away anytime soon. And I think that's a good thing.

**M**

## About The Author

*Rich Warren lives in Honolulu, Hawaii with his wife, Mika, daughter, Haruko, and his son, Kai. He is a software engineer, freelance writer and part time graduate student. When not playing on the beach, he is probably writing, coding or doing research on his MacBook Pro. You can reach Rich at [rikiwarren@mac.com](mailto:rikiwarren@mac.com), check out his blog at <http://freelancemadscience.blogspot.com/> or follow him at <http://twitter.com/rikiwarren>*



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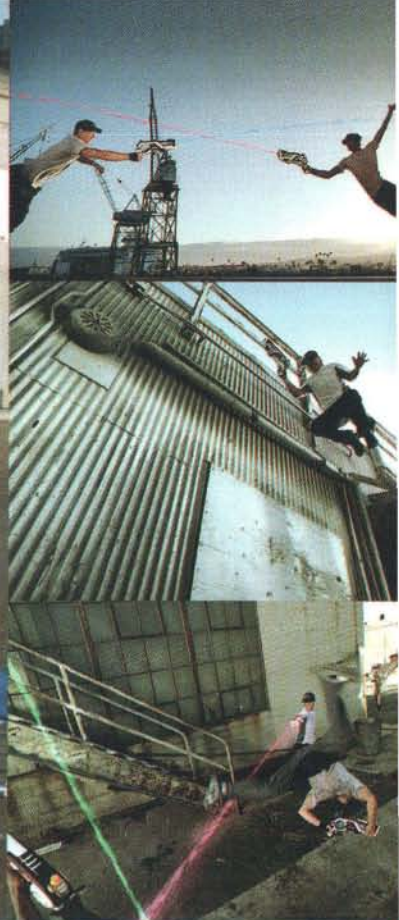
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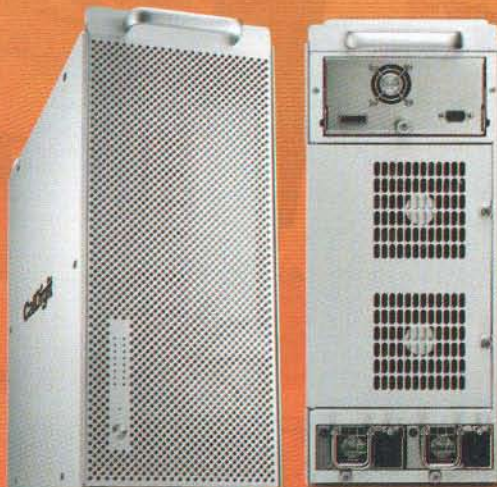
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## A Helping Hand

There's a scene in the movie "Private Benjamin" in which a (ugly cruel racist insensitive stupid offensive) (okay, can I proceed?) stereotyped Japanese businessman tries to pick up women in bar.

"Sayyyyyy," he oozes, offering up his wrist. "Could you please tell me what *time* it is?"

The blonde peers closely at the suspiciously chunky watch and is immediately blinded by a flash of light.

"I just took your *picture*, mama!" beams the u.c.r.i.s.o.s.j.b. Visions of second base are dancing in his head.

It was a cheap joke and the audience of the era (that memorable and interminable dry spell between "Empire Strikes Back" and "Return Of The Jedi") was meant to laugh at what passed for a mating call among the geek species.

Me? I thought it was an awesome watch. I have a Casio camera watch somewhere here in my office and *still* I lust for the Sweet Mama Camera Watch.

"Because it has a flash, and the Casio doesn't?"

See? There's nothing to this writing game: it's all about knowing your audience.

Yes. Exactly. It probably shot incredibly grainy photos on 8mm Minox spy film and it required that you walk around all day with the knowledge that one spark of static electricity would set off the 10 grams of magnesium on your wrist.

(Possibly while you were standing at a urinal.)

...But still: I look at the indoor photos I've been taking with my iPhone and I'm eager to at least read the terms of the trade.

Wristwatches got boring a long time ago, anyway. Today, when a nerd scores an epic strikeout at a bar, it's by trying to impress a member of the appropriate target gender by flashing a cellphone, not a watch, though this device does have its advantages.

Witness an actual scene from my days as a naive, unsophisticated youth way back in 2006. I had Nokia's then-new, then-hot N80 smartphone. Pretty hot stuff for the day. It supported full 3G speed and the ability to play live streaming media without breaking a sweat. Onboard video players and a card slot allowed me to put a movie and a bunch of "Simpsons" episodes on the thing. It had a 3-megapixel camera with a v.decent lens...

...And it even had a flash.

This, I demonstrated to a cute bartender-ette.

"And the camera is integrated into the contact database, too. I can easily attach this photo to your address card. Here," I said, handing the phone over. "You'll be amazed at how quickly you can type in your name and phone number via the keypad's predictive text-input system."

(Shut up. I *got* her phone number.)

Of course, we were all different people, back in the middle of Bush's second term, weren't we? I'd never resort to such tactics *today*.

But again, I think I can safely say that I know my audience. You're *way* too classy to use technology as a pickup vector. And yet, your iPhone, your MacBook Air, iPod Nano (the new, cool ones) wind up acting as social lubricants whenever you're out and about in Human society.

Why? Because of all the people at the wedding reception...you have the unmistakable aroma of someone who can explain how to get "Back To My Mac" to work properly.

(Speaking of cruel and inaccurate stereotypes: this is not the spicy pong of someone who hasn't bathed in a month. It is instead the unmistakably fruity scent of someone who has never bought a brand of shampoo that didn't feature the phrase "Compare and save!" somewhere on the bottle.)

Not even the deployment of thousands of Apple Geniuses — certified by no less-authoritative a method than a custom tee shirt bearing that exact phrase — to shopping malls all across the world is able to out-pull the intoxicating lure of The Biggest Geek In The Room. For good or for ill, you're The One To Ask, and if you're invited over to someone's house for Christmas, their intent is clear. Enjoy the spirit of the holiday, bring a hearty appetite for a style of cuisine best described as "medically-contraindicated"...but make sure you that also bring enough computers, software, cables, and other knick-knacks to make damned sure that all of their kids' presents are up and running by dinnertime or else you'll find yourself pushed out to your car with a barely-defrosted Hot Pocket pressed into your hands.

Now all of this may *sound* like a lament, but honestly...it's fine. Because being a knowledgeable and helpful nerd is like showing up at a park with an adorable dog. You meet all kinds of neat people without much effort at all.

It's been on my mind over the past few days because I've just returned from one of the highlights of my year: the annual Conference on World Affairs at the University of Colorado. This weeklong event was founded exactly 60 years ago as a way to bamboozle the University into covering the exorbitant appearance fee demanded by a speaker who was deemed "unpalatable" by the management, due to the fact that he was a Communist or possibly Eleanor Roosevelt (I've been told conflicting accounts). By disguising the payment as the budget for a prestigious, big deal conference they were able





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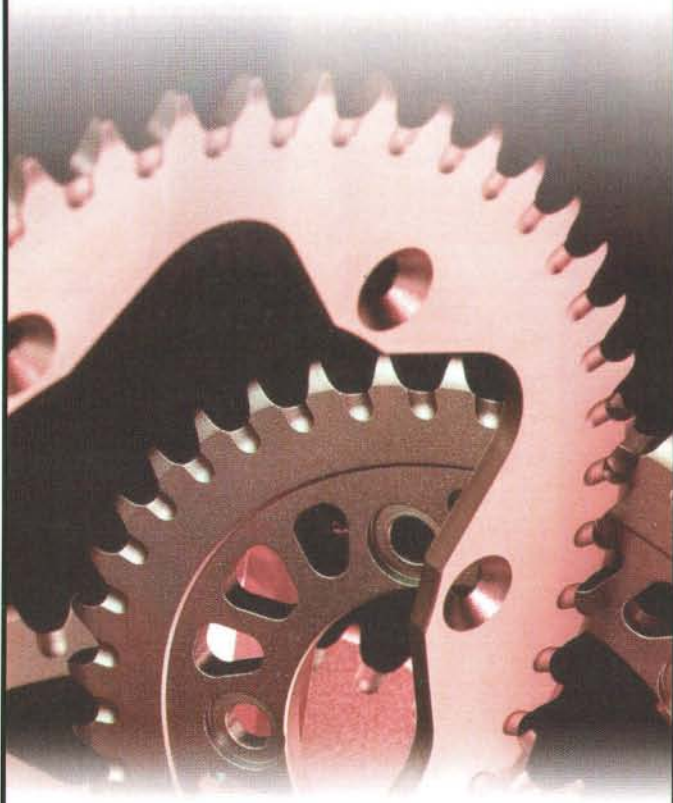
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to get the guy in under cover of darkness and then smuggle him out again at dawn's light, concealed under a wagonload of hay.

The upshot is that the University invites a hundred professionals of all disciplines to come on out to Colorado at their own expense and discuss issues that certainly seem important at the time. Topics like "Privatizing War: Blackwater, et al" (not me) and "U.S.-Mideast Relations: The Cost Of A Damaged Dialogue" (not me) and "Bad Things You Can Do Online" (bingo).

This was my ninth or tenth year speaking at the Conference, but it was the first one since the iPhone was released. Word quickly spread that I have a best-selling book about the thing ("iPhone: Fully Loaded"...oh, bless you for asking) and this meant that at lunchtime in the speakers' dining room, I was never lonely for very long.

I spent fifteen minutes with an Academy Award-winner, explaining the limitations of the iPhone's contact manager. Ten with an internationally-reknowned expert on Parliamentary law, telling him about storing personal and financial information securely via iPassword.

I figured out why a Macarthur Genius Grant winner's phone was stuck speaking German and for bonus points, wound up convincing him to ditch his ancient Dell laptop in favor of a MacBook Air like the one parked in front of me.

One fellow speaker — I think she was either an astronaut or a World Court justice; what with the lack of oxygen there at 5640 feet, things tend to get a little blurry — asked me about a certain function that wasn't available, which sort of inspired me to explain the iPhone SDK, the upcoming App Store, Firmware 2.0, and its implications to reinvent the iPhone from an Awesome Phone into a Whole New Computing Platform by the end of June.

I entered into my Nerd Trance, opened up that portal so that monkeys and orange birds could throw acronyms, architectures, and strategic visions directly into my conversational output buffer, and before long I discovered that I was having a bit of a Sermon On The Mount effect upon a gathering and growing audience of iPhone users.

Which points out the real reason why acting as somebody's Seeing-Eye Geek is really nothing to complain about. The aforementioned Academy Award-winner was Dave Grusin, a jazz keyboardist of ungodly gifts. One of my annual Conference traditions comes after the Tuesday night jazz concert, when I bump into Dave and say "Once again, your performance made me think that quitting the piano lessons after five years was one of the shrewdest decisions I've ever made."

For me, playing *anything* was hard and frustrating work. But it's all so damned *effortless* for him. This is where his talents lie. He works hard at it, but it doesn't seem like work, really; it's just what he *does*. So to a guy like Dave, tossing off a brilliant ten-minute improvisation on "Autumn Leaves" is about as difficult as running a leaf-blower.

So when people like you and me are asked about the future of the iPhone, well...it's so damned *effortless*. We're



good at stuff like that. We spend all day reading and learning about technology because that's just what we *do*. It's baffling and frustrating for others and that's often hard for us to fully appreciate. I babble for ten minutes and when the monkeys and the birds return control of my faculties, I'm amazed that my audience is so grateful. Just by relating the world as I understand it, I've taken a tangled mess of information in this person's head and laid it out into an orderly grid, a sense of direction, and a big red star on it labeled "You Are Here."

Surely you've been in the same boat. It's a terrific gift. Not this knowledge, I mean: the opportunity to be so helpful while taking so little trouble in doing it. If there's truly any purpose to our limited exile on this planet, it's to seize every opportunity to lighten another biped's load.

And then, of course, there are side benefits. Like scoring that lady bartender's phone number.

Okay, true, it turned out to be for the bar's laundry service. But just like buying a lottery ticket, it was fun to pretend that I had the winning number for a day or two.

**M**

### About The Author

*Andy Ihnatko is The Chicago Sun-Times' technology columnist.*

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# Packaging for Leopard

## Introducing the new PackageMaker 3.0

by José R.C. Cruz

### Introduction

In today's article, we will look at the new PackageMaker tool. We will learn what new features the tool brings to the developer table, as well as issues that plague it. We will also see what has changed in the tool since its 2.0 version. Finally, we will use the tool to build a basic installer package, and localize it for two regions.

You can get a copy of the project files used in this article. Just go to the following URL to download the files at the MacTech website: [ftp.mactech.com/src/mactech/volume24\\_2008/24.06.sit](ftp.mactech.com/src/mactech/volume24_2008/24.06.sit)

### Enter PackageMaker 3.0

This latest release of the tool fixes many of the issues found in version 2.0. It boasts a new user interface, and has improved support for scripts and localized files. It is also optimized for Leopard, also known as MacOS X 10.5.

As before, PackageMaker 3.0 is part of the Xcode suite of tools. It is not available as a separate download.

### The Project Window

The *project window* (Figure 1) is where you add and manage the payloads of your package. It is where you configure each payload or the entire package. It also is where you define how the package behaves during installation. And now, you can have several project windows open, each one for a different package.

The window's layout is simpler and less confusing to use than its 2.0 version. It consists of two parts: the payload list and the editor panel.

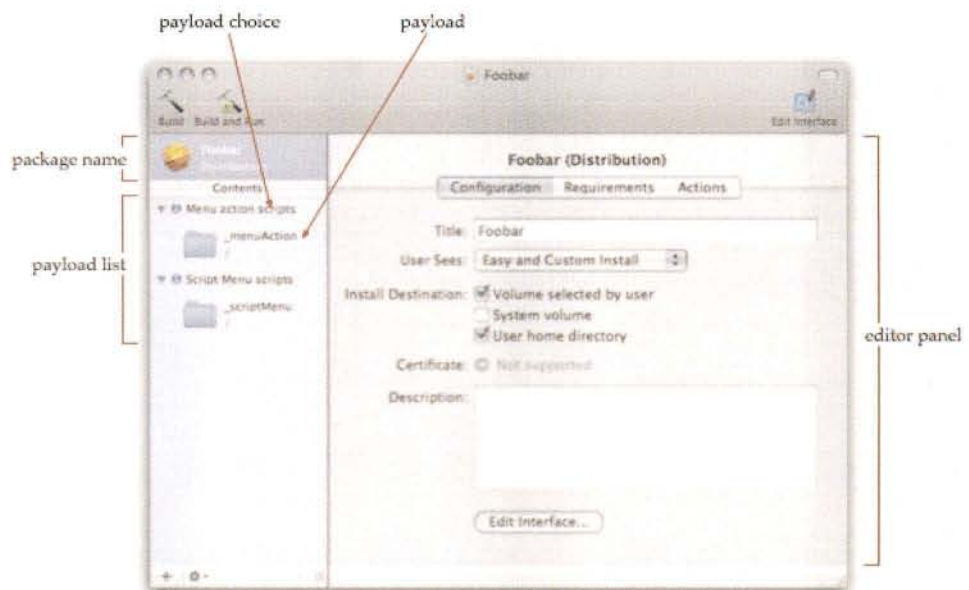


Figure 1. The Project Window

On the left of the window is the *payload list*. This list shows each payload in the package and its assigned choice label. At the top of the list is the *package bundle*, under which the payloads and support files are stored.

On the right of the window is the *editor panel*. This panel has three different layouts, each layout displayed by selecting an entry from the list. Also, each layout has more than one subpanel, each subpanel selected by a tab button.

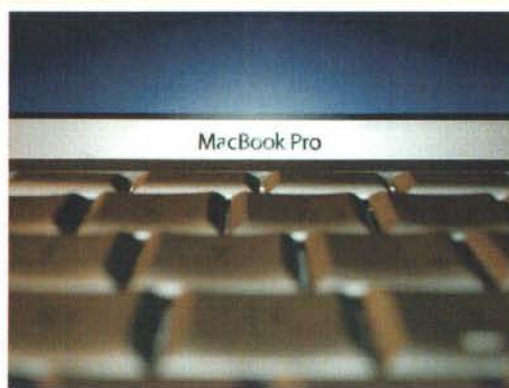
Selecting the *package name* displays the subpanels in Figure 2. The **Configuration** subpanel sets the target volume(s) for the package. It selects one of three installation modes: *easy*, *custom*, or *both*. It also sets the general description of the package.

The **Requirements** subpanel defines what checks to make on the target platform. It creates the **InstallationCheck** and **VolumeCheck** scripts used by the package. The **Actions** subpanel defines how the package behaves before and after installing its



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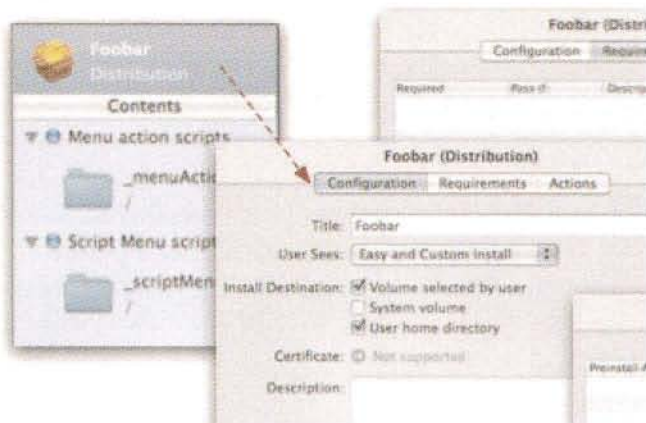


Figure 2. Configuring the package

payloads. It creates the `preinstall` and `postinstall` scripts used by the package.

Selecting a *payload choice* displays the subpanels shown in Figure 3. The **Configuration** subpanel sets the name and description of the choice. It sets the choice's unique ID, tooltip message, and default location on the target volume. It also sets the initial state of the choice.

The **Requirements** subpanel defines what checks to make on the target. The results of these checks then update the state of the payload choice.

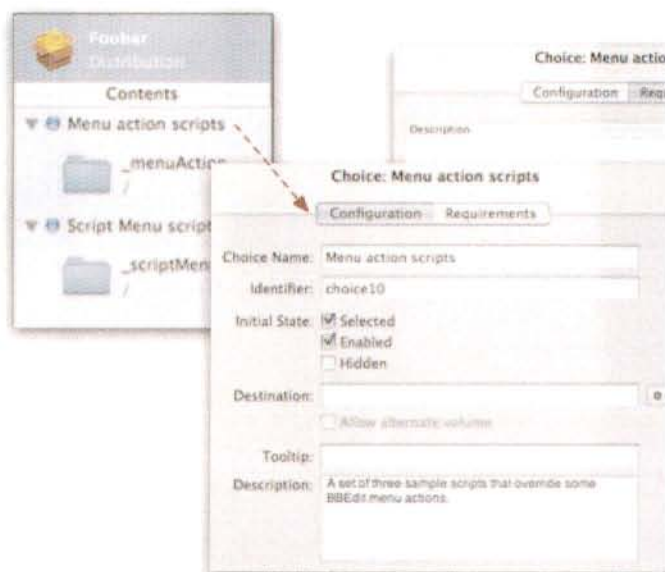


Figure 3. Configuring a payload choice

Finally, selecting a *payload* displays the subpanels shown in Figure 4. The **Configuration** subpanel sets the location of the payload on the user volume. It assigns a unique ID and version number to each payload. It also defines what action is required from users before they use the payload.

The **Contents** subpanel sets the permission flags for each item in the payload. If the payload happens to be a bundle, those flags also affect the files and directories inside that bundle. The **Components** subpanel defines if the payload can be downgraded or relocated. It also defines what scripts to run for those actions. And the **Scripts** subpanel selects what scripts to run when the payload is installed.

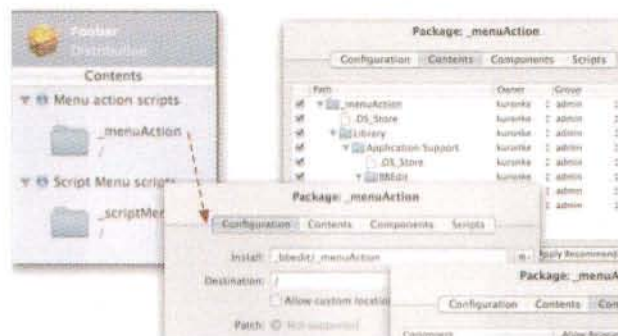


Figure 4. Configuring the payload

## The Requirements Editor

The *Requirements Editor* is where you define the checks to be done on the target platform. Access to the editor is done by clicking on the '+' button on the **Requirements** panel. Like the payload window, the editor has changed a lot since version 2.0. It is now much simpler and more intuitive to use.

The editor comes in two forms. The first form (Figure 5) is displayed for the package. The upper half of the editor sets the condition a target *must satisfy* for the package. The lower half sets the *failure message*. If the target fails a specific condition, the package displays the message set for that condition.

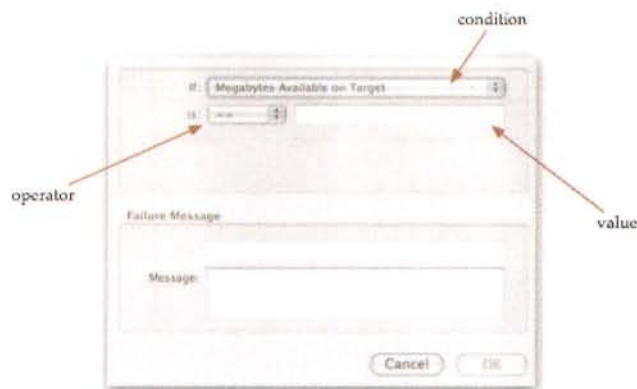


Figure 5. Requirements for a package

The second form (Figure 6) is displayed for a payload choice. As before, the upper half sets the condition a target *must satisfy for the choice*. The lower right widgets set the *initial state* of the choice. The lower left widgets set the new state of the choice if the target *fails* the condition.



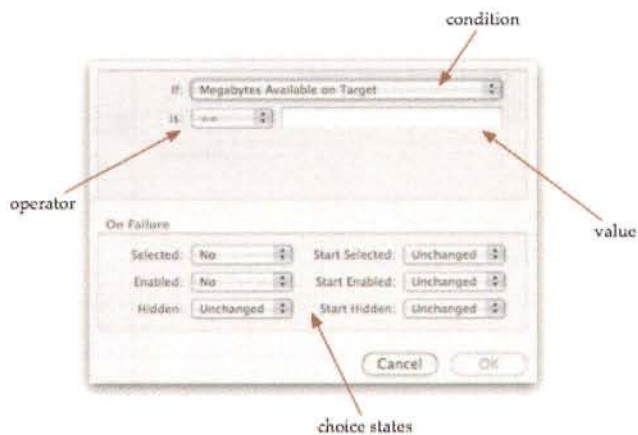


Figure 6. Requirements for a payload choice

The editor supports a large variety of conditions. Some conditions focus on the target system, others on the target volumes. Some can check for specific states or setups by calling `sysctl()` or `IORegistry`.

The editor can also use an *external script* to do more complex checks. The script can either be a basic shell script, or one written in Installer JavaScript. Either way, the script must return a **TRUE** if the check is successful, **FALSE** if otherwise. The editor also merges the script into the package bundle.

## The Interface Editor

The *Interface Editor* (Figure 7) is where you set the visual aspects of your installer package. This editor changed the least since version 2.0. It now supports localized graphics and text, and it discarded the **Contents** panel. The rest of the editor, however, works in the same way as before.



Figure 7. The Interface Editor

The editor window has four basic parts. On the left of the window is a *list of panel names*. Clicking on a name selects the specified panel. The same also happens if you click on the **Continue** button.

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On the right of the window is the *settings drawer*. This drawer lets you select the file to be used by the panel. It also allows you to enter text directly on the panel.

At the bottom of the window are three *region controls*. The '+' button adds a new region to the package, the '-' button removes the current region. And the pop-up menu selects which region the panel uses. By default, the editor uses English as its region.

### Notable 3.0 issues

As always, the PackageMaker tool has a number of issues that can limit its overall usefulness. The following are some of the issues found in the 3.0 version of the tool. Be aware that a new version of the tool maybe available by the time you read this article.

- The tool no longer lets you localize the text of each payload choice. Instead, you have to add the localize text directly to the `distribution.dist` file.
- The tool lacks any debug or trace functions for installer scripts. Your only recourse is to use the JavaScript method `system.log()`.
- The Requirements Editor no longer lets you use an external editor to write an installer script. This can make writing long and complex scripts a tedious task.
- The tool uses Xcode as its online help viewer. Xcode is a very poor choice due to its large resource needs. A better choice for a viewer would be Safari or Apple Help.
- The tool lacks any support for Automator workflows. This makes the tool difficult to use as part of an automated build and dispatch process.

## Let's Make A Package

Now, we will build a basic installer package using the PackageMaker tool. Our payloads are two sets of AppleScript scripts for BBEdit. We will give users the option of choosing which payload to install. We will also have the package check which target volume has enough space.

### Adding the payloads

First, prepare the payloads as shown in Figure 8. Notice that each payload is arranged in terms of their *location on the target volume*. Notice also that the name for each payload directory reflects the actual payload. For instance, the menu action scripts for BBEdit are in the directory named `menuAction`.

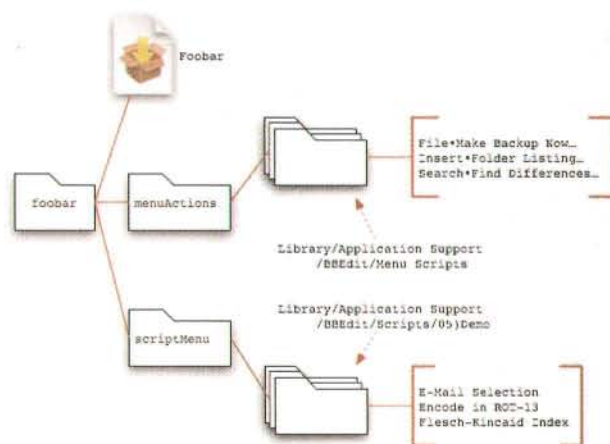
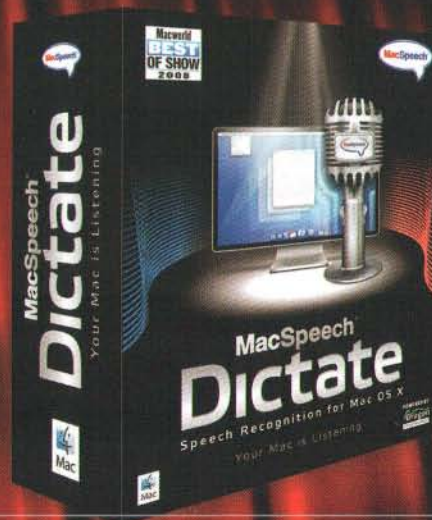


Figure 8. Arranging the payloads

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Patrick Emerson

**From:** Patrick Emerson [pemerson@yourcompany.com]  
**Sent:** Tuesday, March 11, 2008 1:38 PM  
**To:** Michael Allen  
**Subject:** Moving to a Subscription Based Sales Model

Mike,

I've run the numbers and I really think we should recommend a subscription model to Steve. With our product, it's a financial win and now allows us to easily monetize our support services. Add in the fact our customers will benefit with more choice on how to purchase our product...it's a no-brainer.

Thoughts?

- Patrick

----- Michael Allen Replied -----

**From:** Michael Allen [mallen@yourcompany.com]  
**Sent:** Tuesday, March 11, 2008 1:42 PM  
**To:** Patrick Emerson  
**Subject:** Re: Moving to a Subscription Based Sales Model

Patrick,

Yes, I agree it makes great financial sense. Here's the thing, we have to build it. This means new code in our product, new UI in our store, and managing end-user's in a whole new way. Not to mention, the compliance, legal and financial complications we will now have. Don't we also have to address all new requirements and security concerns when we save personal information and recharge someone's credit card?

I'm not sure we have the time or resources for all of that or even fully understand it. Still, I would hate to let this slide.

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Now launch the PackageMaker tool to start a new installer project. Enter a *unique package ID* in the **Install Properties** dialog (Figure 9). Choose the *minimum system version* from the pop-up button. The tool uses this information to set the bundle format of the package.

Choose **Save As...** from the **File** menu, and save the project under the name **FooBar**.

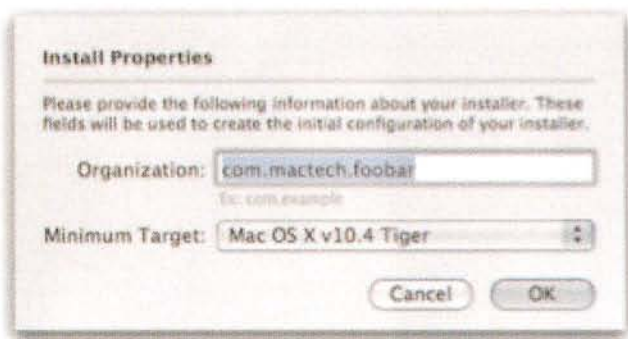


Figure 9. The Install Properties dialog.

Next, choose **Add Contents** from the **Project** menu. Navigate to the **fooBar** directory (see Figure 8), and select the subdirectory **menuAction**. You should see an entry for this payload on the payload list. Select the entry and click on the **Configuration** tab on the editor panel. Update the subpanel as shown in Figure 10.

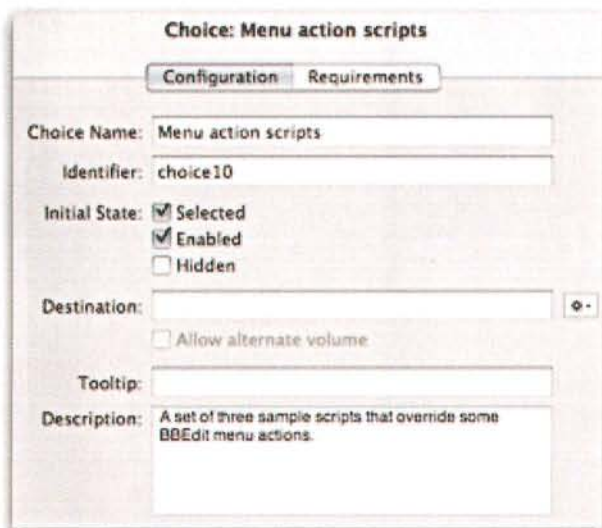


Figure 10. Configuring the payload choice

Follow the same steps to add the payload **scriptMenu** to the project. Then edit the **Configuration** subpanel of that choice with its own unique information. You can get the correct information by examining the **FooBar** project.

Make sure, however, to leave the **Destination** field blank for both payloads.

## Configuring the package

First, click on the **FooBar** icon from the payload list. Then click on the **Configuration** tab of the editor panel. Update the subpanel as shown in Figure 11. You can also enter a short description of the package in the **Description** field, or you can leave that field blank.

These settings allow a user to choose specific payloads. They also let payloads to be installed in either the user's home directory or on a selected target volume.

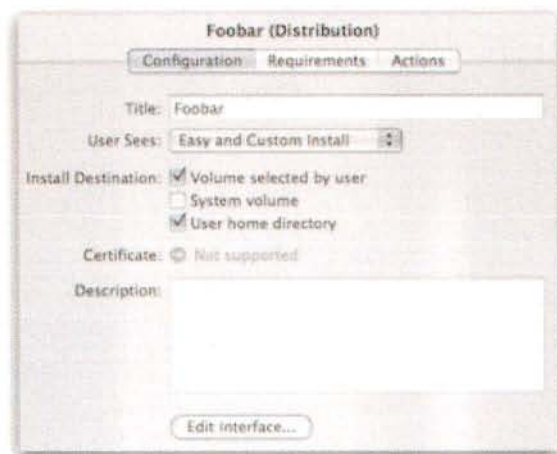


Figure 11. Configuring the package

Next, click on the **Requirements** tab to display that subpanel. Click on the '+' button to display the Requirements Editor. Enter the settings shown in Figure 12, and click on the **OK** button. The subpanel will display the settings as shown in Figure 13.

These settings tell the package to display only those target volumes with at least 1024 Mbytes of free space. They, however, do not apply if the user chooses his home directory as the target.

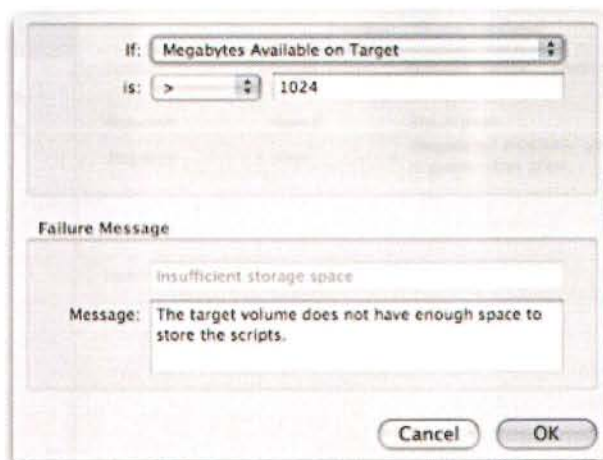


Figure 12. Configuring the space requirements.



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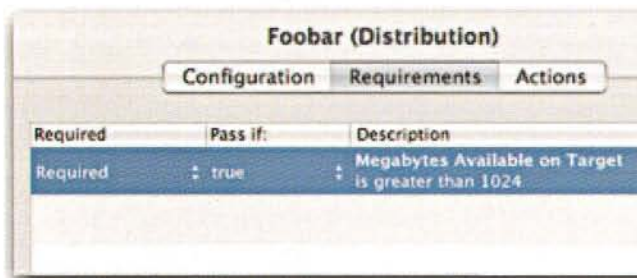


Figure 13. A list of package requirements

Now, click on the payload entry `menuAction` from the list. Then click on the **Configuration** tab to display its subpanel (Figure 14). Click to clear the checkbox **Require admin authentication**. Choose "None" from the pop-up button **Restart Action**. Leave the rest at their default values.

These settings disable the need to authenticate the payload before it is installed. It also disables the need to restart the target system after installing the payload.

Repeat the same steps for the payload entry `scriptMenu`.

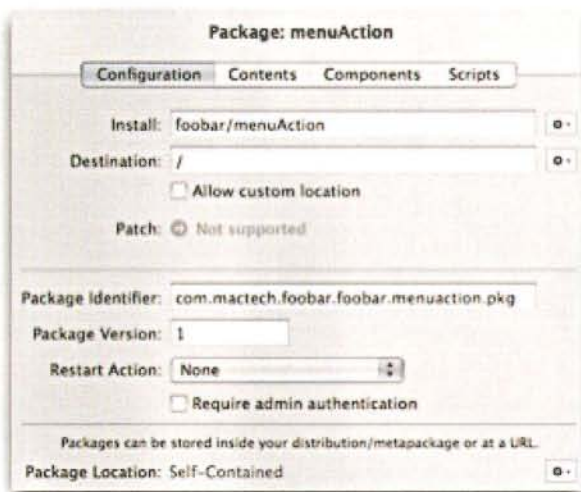


Figure 14. Configuring the payload.

## Building and testing the package

Choose **Build** from the **Project** menu. The tool prompts you to save the package under the name **Foobar**. Change the name to **Foobar Installer**, and click on the **Save** button to save the package under that name.

The tool then switches to its progress window (Figure 15). It displays each stage of the build, as well as any issues it finds. In the example shown, the tool displays two build warnings. The first warning tells us that we have disabled authentication. This is an issue only if our payloads consist of critical code such as drivers or frameworks. Since our payloads are just user-level scripts, we can ignore this warning.

The second warning tells us that installing into the user's home directory works only for versions 10.5 or newer of MacOS X. Older versions of MacOS X will not support this option. Again, just ignore this warning, as it does not affect our needs at this time.



Figure 15. The build progress window

To test the package, click on the window icon **Open In Installer**. The tool will now tell the Installer utility to open the installer package. After the Installer displays its first panel, click on the **Continue** button until you see the panel **Select A Destination**. Then click on the icon **Install** on a specific hard drive to display a list of target volumes (Figure 16).

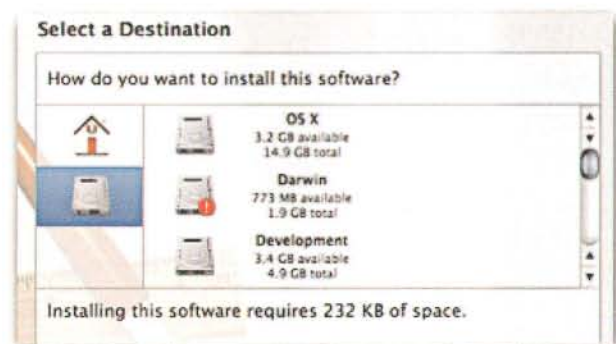


Figure 16. Selecting a target volume

Notice that some of the volumes came with a stop icon. These volumes failed the requirements check set in Figure 12, that is, they have less than 1024 Mbytes of free space. And selecting these volumes will display the correct error message.

Next, click on the home icon on the left side of the volume list. Then click on the **Continue** button to display the **Standard Install** panel. Now click on the **Customize** button to switch to the **Custom Install** panel (Figure 17). The panel displays a list of each payload found in the package. If you highlight each payload, you get its description displayed on the field below that list.





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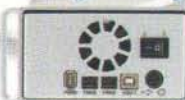
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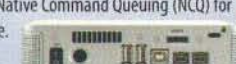
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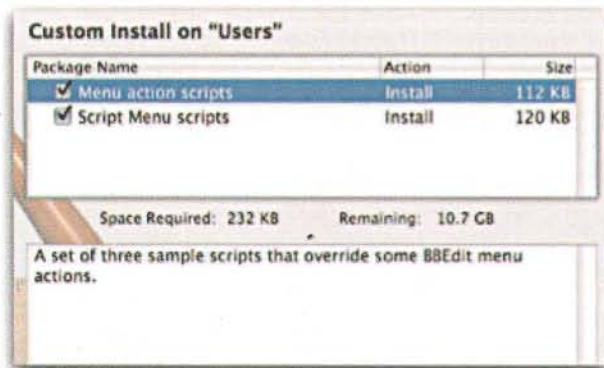


Figure 17. Selecting a payload

Finally, with both payloads selected, click on the **Install** button on that panel. The Installer switches to a progress panel, which displays each stage of the installation. It then displays a last panel stating the results of the installation. For a final check, go to each of the following paths on your home directory.

~/Library/Application Support/BBEdit/Menu Scripts/  
~/Library/Application Support/BBEdit/Scripts

You should find the scripts listed in Figure 8 installed in these directories.

## Let's Add A Face

We will now localize our working package for two regions: *English* and *French*. Our package will have a different panel image and text for each region. We will then test our package to see the results.

First, arrange the localized files as shown in Figure 18. Here, we group each file in terms of target regions. Those localized for English go into the directory labeled **english** and those for French into the directory **francais**. Grouping the files keeps them within reach, as well as minimizes confusion.

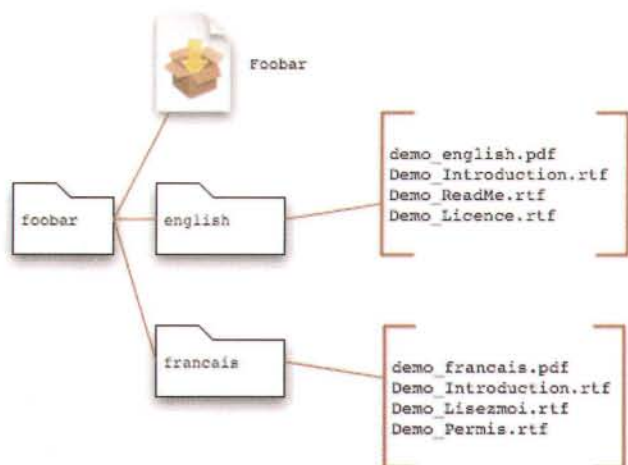


Figure 18. Arranging the localized files

Next, choose **Edit Interface** from the **Project** menu to display the Interface Editor. Click on the '+' button to display the region dialog (Figure 19). To add the French region, enter the initials **fr** onto the provided field. You can also do the same by clicking on the pop-down button and choosing **fr** from the menu.

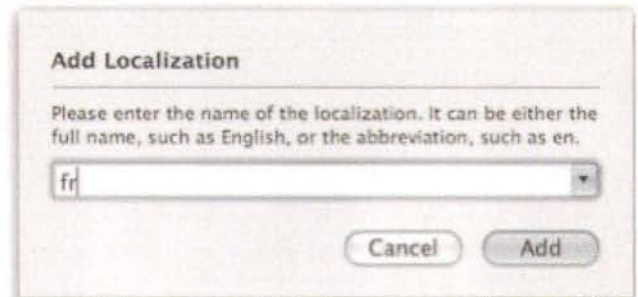


Figure 19. Adding a French region

## Adding the background image

The first panel displayed by the Interface Editor is the **Background** panel. To set the background image for the English region, choose **en** from the region drop-down menu. Click on the radio button **File** on the settings drawer. Click on the drop-down menu button and choose **Relative** from the menu. Enter the path to the image file on the field provided. For the **FooBar** project, that path will be **fooBar/english/demo\_english.pdf**. The editor then updates the panel as shown in Figure 20.



Figure 20. Adding a background image

To set the image for the French region, choose **fr** from the region drop-down menu. Use the same steps to select



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the image file. For the **Foo**bar project, the image file will be in the path `foobar/francais/demo_francais.pdf`. The editor should display a stylized Eiffel tower (see Figure 22) as a result.

Save your changes and click on the **Continue** button to display the **Welcome** panel.

## Adding the panel text

To add text to the **Welcome** panel, first choose **en** from the region pop-up menu. Again, click on the radio button **File** from the settings drawer. Then click on the drop-down menu button and choose the menu item **Relative**. Enter the following path in the field provided.

`foobar/english/Demo_Introduction.rtf`

The editor then updates the panel as shown in Figure 21.



**Figure 21. The Welcome panel (English)**

To do the same for French, choose **fr** from the region pop-up menu. Follow the same steps, but enter the following path to the field.

`foobar/francais/Demo_Introduction.rtf`

The editor then updates the panel as shown in Figure 22.



**Figure 22. The Welcome panel (French)**

Use the same steps to set the next two panels: **ReadMe** and **License**. The files for these panels are shown in Table 1. Notice that all the files are in *rich-text format*. The tool also supports HTML and plain-text file formats. It does not, however, support PDF, ODT, or Word formats at this time.

**Table 1. List of localized files**

Panel	Region	
	English (foobar/english/)	French (foobar/francais/)
ReadMe	Demo_ReadMe.rtf	Demo_LisezMoi.rtf
Licence	Demo_Licence.rtf	Demo_Permis.rtf

For the last panel, **Conclusion**, click on the radio button **Embedded** from the settings drawer. This action enables the large text field on that panel. Type the following phrase on that field.

**Restart BBEdit in order to use these scripts.**

Choose **fr** from the region pop-up menu, and type the following phrase on the same field

**Relancement BBEdit afin d'employer ces scripts.**

Use the **Format** menu to set the font, color, and alignment of both phrases. Save your changes to all the panels when done.

Always use the *same source of text* for all regions in each panel. If you used an external file for the English region, do the same for the other regions. If you typed the text directly onto the French region, do the same thing for the other regions. The tool does not support different text sources for each panel. In fact, changing the text source for one region, e.g. from **File** to **Embedded**, removes the text source on the other regions.



## Testing the localized interface

To test the package, first choose **System Preferences** from the **Apple** menu. Click on the **International** icon and then on the **Language** tab. Make sure that the first item on the list of languages is **English**.

Back on the PackageMaker tool, choose **Build and Run** from the **Project** menu. Save the package under the name **FooBar Installer**, replacing the older version. Once Installer opens the package, click on the **Continue** button to view the panels. They should all display the correct image and text for the English region. Choose **Quit** from the **Installer** menu when you are done.

Next, go back to the **System Preferences** window. Move the entry **Français** to the top of the language list. Then follow the same steps to rebuild and run the installer package. You should now see all the panels displaying the correct image and text for the French region.

## Closing Remarks

The PackageMaker tool continues to improve with every release. Its latest form has a simpler interface, making the tool easier to use. It also has better support for localized files and for external script files. The tool still has a number of issues, but these issues are likely to be resolved in future versions.

Next time, we will learn how to use the tool to prepare applications for delivery. We will also learn how to select payloads based on target conditions and how to handle downgrades.

## Bibliography and References

Apple Computers. *PackageMaker Users Guide*. 2007 Jul 23. Copyright 2007. Apple Computers, Inc. Online:

[http://developer.apple.com/DOCUMENTATION/DeveloperTools/Conceptual/PackageMakerUserGuide/Introduction/chapter\\_1\\_section\\_1.html](http://developer.apple.com/DOCUMENTATION/DeveloperTools/Conceptual/PackageMakerUserGuide/Introduction/chapter_1_section_1.html)


Apple Computers. *Software Delivery Guide*. 2006 Jul 24. Copyright 2006. Apple Computers, Inc. Online:

[http://developer.apple.com/documentation/DeveloperTools/Conceptual/SoftwareDistribution/Introduction/chapter\\_1\\_section\\_1.html](http://developer.apple.com/documentation/DeveloperTools/Conceptual/SoftwareDistribution/Introduction/chapter_1_section_1.html)


**M**

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# Textmate: Take Your (Text) Editing to the Next Level

Or: How to make friends  
with robot ninjas from Denmark



by Ryan Wilcox

## Why This Article

Why read this article? “There’s heavy duty text editing lifting to do, and only TextEdit (or XCode’s editor) to help me!” you say, “No time to waste!” But using TextEdit for serious text editing is like moving a house with a crowbar – hard work. Why do all that hard work when there’s a better way? Read this article and start learning how to really Work Smarter, Not Harder. You’ll be amazed at all the typing you’re not doing!

“No thanks, I use BBEdit!” And I must say, what a fine text editor choice – still the preferred tool of this author for certain tasks. BBEdit stays out of your way and lets you work, giving you tools to perform fine and sterile surgery on your text. But text editing isn’t necessarily hospital surgery: it’s rough and tumble M\*A\*S\*H style just-get-it-done meatball surgery. That doesn’t mean things are done sloppily: quickness, efficiency, and (above all) correctness are the name of this game. But imagine being able to hit F1 and have a dated comment happen. Type “objc” and have an entire Objective-C class structure created for you, just waiting for you to fill in the class name... but only when you’re editing Objective-C code. At first glance, BBEdit’s Clippings feature provides this, but no. TextMate takes “automatically filling in chunks of repetitive text” beyond anything in your Clippings-brain.

This article is the gonzo-journalist guide to MacroMate’s TextMate (<http://www.macromates.com>). The wild and crazy is out there, and you’ll see a bit of it in this guided tour: the fundamental keys of TextMate (and a glimpse into their power); dealing with repetitive text with TextMate’s Snippets feature; getting Bundles for your language or task; customizing TextMate; and more. I suggest reading it once on the bus or the sofa, or wherever you read MacTech, then run to the computer, download the trial to TextMate, and follow along – it’s best it see this power in action, experience it for yourself.

## Why TextMate

So why TextMate? TextMate lets you create tools quickly: tools that you use once to do a specific operation on a lot of text, or tools that you’ll use forever. These tools can be written from scratch in your favorite shell scripting language, or sent through the ancient tools of your Unix forefathers. Maybe the resulting tool is so useful you want to publish it to the world! Many have gone before you: TextMate is used (and has tools, or in TextMate parlance, bundles) for almost every editing task under the sun. If you’re doing something with text, there’s a good chance that there’s a bundle out there to make your life easier. What if the bundle just makes things more annoying? Just edit the bundle to work like you want: bundles are just written in shell scripting languages (primarily Ruby, but with some Python, Perl, or bash), nothing special. TextMate’s motto might as well be “Yes, you can feed the animals! They’re not dangerous: feed them, pet them, change how they behave!”

Allan Odgaard, a Mac programmer from Denmark, created TextMate itself. He moved to Mac OS X from Windows, looked around and wasn’t pleased with what he saw in the text editor environment. TextMate, being born in the OS X generation, can (and does) integrate very well with the Unix command line, putting 30 years of text-dicing knowledge in your hands. But, if we wanted Unix Text Editing we’d all be on IRC involved in the latest vi vs emacs debate. No, a text editor for the Mac must be very Mac like. TextMate, at least in this author’s mind, does extremely well in balancing what Must Be Done In The Core App vs What Can Be Done By Others. The Unix philosophy of “Write Programs That Work Together” is absolutely TextMatian... but in a way that, like the Mac, makes it easy to do something amazingly complex.



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## Robot Ninjas In Action

TextMate's most fundamental command is also the easiest to see. Fire up TextMate, open a new document, and type "MacTech". Now: space, "Mac", and press the escape key. See how your "Mac" turned into MacTech? The Escape key completes the current word with matching words from your document. Try to complete "Ap". It doesn't work: there's no "Ap" word in the document. Type "Apple", space, and "Ap" again (it completes!). Now add the word "Applefritter" to the end of your document, type space, and "Ap". TextMate completes it as "Applefritter" – that was the match closest to your insertion point. But we don't want "Applefritter", we want "Apple". Press escape again: "Applefritter" goes away and "Apple" replaces it. Shift-Escape goes back to "Applefritter". If both of those matches are wrong (AppleSauce, perhaps?), Undo will take you back to your plain "Ap".

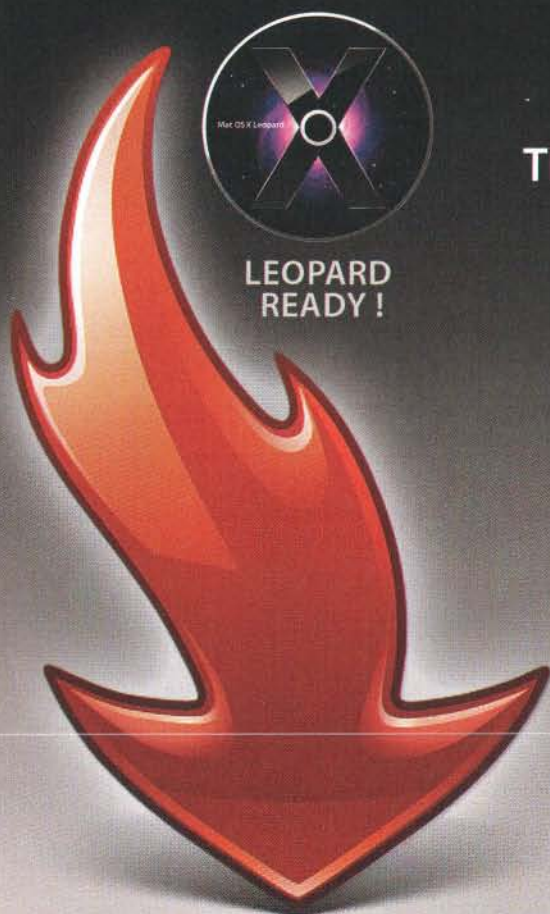
But wait, there's more to the escape key. Bundles can influence the completion list too, adding words to the mix (even if they aren't already in the document!) via the **completions** preference key. To see this in action, use the language popup (the second item at the bottom of the TextMate window) and change from Plain Text to Objective-C. Type "re" and escape – boom, it is autocompleted to "retain". Some bundles implement magic via option-escape too, bundles like Objective-C, HTML, CSS. Sometimes a bundle documents this in its Help command, sometimes you have to look through a bundle's menu, looking for

a menu item that contains "CodeCompletion". We're skipping ahead here, and will return to bundles a bit later. For now, just remember the escape key.

Not to be outdone by the lowly escape key, the tab key begs for attention in TextMate. TextMate uses abbreviations and the tab key as one way of triggering snippets of text. Watch this: type "isoD" in TextMate (case is important) and press tab. Your isoD expanded to today's date in ISO date format (year-month-day format). (if there's no snippet that matches your abbreviation, a regular tab goes into the document. Try it with "isod".

Now TextMate is really going to blow your mind. Use the language popup at the bottom of the TextMate window to switch to HTML. Snippets can be set up to only happen when a certain language is activated... or even when the user is in a certain syntax construction in the file. HTML mode all set? Type "h1" and tab. `<h1 id=""></h1>` is generated... but notice your cursor is between the > and <? Now type your headline text. Robot Ninjas Attack! As you type your headline, the `id` part of the tag is filled out, with spaces translated to underscores.

Later in this article we'll examine this magic further, but the curious can open the bundle editor now, expand the HTML group, use the popup above the bundle list to show only Snippets (not required, but now it's easier to see what we want – and to identify the Snippet's icon, for future reference). Click on the Heading item, and see the code that generates the h1 code. The code is rather complex, but the important part is the



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`${1:$TM_SELECTED_TEXT}`. This says, "the first tab stop is here, and our default value is the selection." If you don't want to use a tab trigger, you can select this item from the Bundles->HTML->Insert Tag->Heading. Magic happens when you choose this menu item when you have a selection. `$TM_SELECTED_TEXT` is an environmental variable: TextMate has a slew of these that reflect the user's state. You can use any environmental variable in a snippet. Readers fond of experiments can replace `$TM_SELECTED_TEXT` with `$HOME` or `$USER`, or any other Unix Environmental variable and see what "h1" expands to now. (If you're wondering how to make your own variables, skip ahead to the conclusion of this article, where it's mentioned briefly, then come back)

Say you have two snippets with the same abbreviation (and scope, which we'll cover later), don't worry: TextMate will display a popup menu with your choices. In your HTML document Type "input", and tab. A popup appears with two options: "input" and "input with label", now select "input" with your mouse (or type "1"). TextMate expands the trigger to `<input type="text/submit/hidden/button" name="some_name" value="" id="some_name">`, with the type block selected. Ok, it's a text input, so type "text". Type tab again and the `name` value is selected. Fill it in, tab to the next field: huge chunks of syntax dealt with, no effort at all.

Automation on call is nice. Automatic automation is even nicer. Type "<". Woh! TextMate completed the tag pair with the

">". Try with {, [, ", - the appropriate ending delimiter is added in all cases! This is a feature called Smart Typing Pairs (and customizable at the bundle level, or you can turn the feature off all together in the Text Editing pane in TextMate's application preferences). Why type ")" ever again?

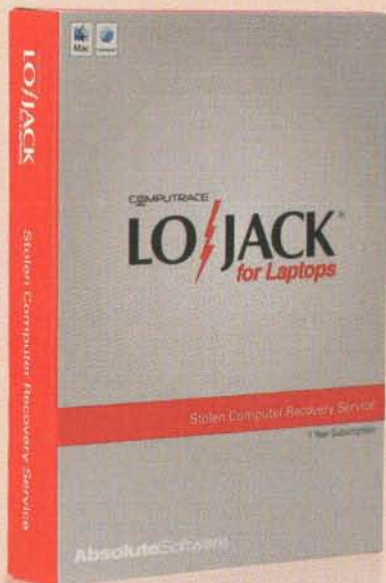
## Robot Ninjas At Your Command

Snippets are a big part of the timesaving power of TextMate, and they deserve some attention. Snippets at their heart are simple: fill in this text when I tell you to. If you want, that's all they have to be. But snippets are almost a programming language: with the ability to guide users through a "form", mirror text, apply transformations to a mirror, and call shell script commands.

Say we're programming and it's company policy to have every comment be on its own line, start off every comment with the filename, colon, our name, timestamp, the comment itself, "updated: " the timestamp again and our name in Last Name, First Name order. Too much typing if we had to do it manually, but watch your coworkers look on in awe as you finish your comments while they're still typing the date! We're going to create a bundle that creates most of this - including comment syntax - automatically!

TextMate recommends that you create your own bundle for your own, personal, snippets and macros and things. Open the bundle editor, down to the Plus menu item, and down at the

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bottom of the menu is "New Bundle". Name your bundle as you wish. In your bundle, go down to the Plus menu again and select New Snippet.

The Snippet's code is (all on one line):

```
$TM_COMMENT_START$TM_FILENAME: ${1:$TM_FULLNAME} ${2:`date +%m-%d-%Y`} ${3:TextMate's not scary!!} updated: $2 by  
${1/(\w+)\W(\w+)/$2, $1/} $TM_COMMENT_END
```

Taking this one thing at a time, and starting at the first tab (or, in TextMate parlance, the first tab stop) the `$TM_COMMENT_START` environmental variable holds the comment syntax for the language you're working in. A language can define as many comment styles as it likes, and can specify if the comment style comments to the end of the line, or from the start of the comment syntax to the end of the comment syntax (in TextMate terms, the former is a line style comment and the latter is a block style comment). `$TM_COMMENT` variables are stored in a bundle's preferences. For example, the C bundle has a preference item named "Comments" that specifies both the `//` style comment syntax (comments go from `//` to the end of the line) and the `/*` syntax (comments extend until a `*/` is found). The `$TM_COMMENT` variables are used in lots of other places in TextMate. The best place for information is to look at the Source bundle's Comment Line/Selection command. Our snippet uses `$TM_COMMENT_END` at the end of the snippet out of paranoia: needed if our current language only supports block style comments (or if `$TM_COMMENT_START` is actually a block comment). The Bundle Development -> Show TM\_\* Variables command shows all the environmental variables provided for TextMate, including `$TM_FILENAME`.

The next chunk of code, `${1:$TM_FULLNAME}`, is where your insertion point will start when you trigger the snippet (aka: tab stop #1, or field #1, for those of you used to tabbing from field to field in Mac applications), and filled in with your full name. The `{$#: }` syntax specifies that the snippet has a default value. Again we see this in the `${2:`date +%m-%d-%Y`}`  chunk, which executes a shell command to generate a default value at tab stop #2. (Shell commands can be executed anywhere in a snippet, with just the ``cmd`` syntax.) Tab Stop #3 defaults in normal text, our actual comment.

The first time a tab stop appears in a snippet, the user is prompted to add or replace text. Every other time it appears it simply mirrors the value filled in the first time. In this case, the "updated: \$2" chunk echoes the second tab stop (which has a default value filled in by the `date` unix command).

Echoes can also have transformations applied to them with the `${#/find regex/replace regex}` syntax, similar to Perl's regular expression operators. (As a sidenote, TextMate uses the Oniguruma regular expression engine, instead of the PCRE Perl Compatible Regular Expression engine). Our regular expression query captures the first two words (first name and last name, in this case) and reverses them.

With this snippet, a long (mostly boring) line is generated with 3 tabs and the actual comment text itself. Robot ninjas cut through red tape! TextMate's bundle mechanism can contain so much more than just snippets.



## More Robot Ninjas From... The Internet

TextMate is like your body. Specifically, like your naked body. Clothes make the man, while bundles make TextMate. You put on certain clothes for certain tasks (work, lounging, the gym), and TextMate has bundles for specific tasks (tracking TODOs, doing HTML, hacking Cocoa, writing LaTeX). Like clothes, if you don't have the right bundle for the right situation, chances are that someone has already created the right bundle for you already – just run into the store and pick up the appropriate outfit. But, unlike clothes, bundles are free!

TextMate bundles are just OS X bundles, an Info.plist describing the bundle, and folders for commands, snippets, preferences,

Bundles reside, at least for now, in a central subversion repository at the MacroMates Subversion repository at <http://macromates.com/svn/Bundles/trunk/Bundles/> (yup, **Bundles twice**). You can download these via Subversion (installed by default on Mac OS X 10.5!), or by a TextMate bundle called GetBundle, available at <http://projects.validcode.net/getbundle>. Because they are checked out with source control, and everything (except supporting .nibs etc) in a bundle is stored as a plain text file, Subversion should be able to merge updates from the repository with any changes you've made locally. (The bundles that come with TextMate, or are installed by the user double-clicking a .tmbundle file – aka: a bundle – also have a system for keeping your personal changes in the face of a changed bundle.)

Subversion is (as of this writing) the most reliable way to get bundles. TextMate invites users to put their bundles in ~/Library/Application Support/TextMate/Bundles/. So, to check out a bundle (say the Haskell bundle) using Subversion, just open up Terminal and:

```
$ cd ~/Library/"Application Support"/TextMate/Bundles/  
$ svn co  
http://macromates.com/svn/Bundles/trunk/Bundles/Haskell.tmbundle/
```

(Notice the quotes around Application Support in the first command. This makes sure the space gets to through the cd command, and not interpreted by the shell as a delimiter for a new parameter).

Bundles can also be found on the Internet, available as a .zip or .dmg archive. Simply double-clicking these bundles will trigger TextMate to install the bundle. The GetBundle bundle is distributed like this.

The GetBundle bundle is less geeky, although it uses the same source for bundles. Install GetBundle by following the instructions on the website, then Bundles -> GetBundle -> Install Bundle, or Bundles -> GetBundle -> Show Bundles on Repository. However, as of this writing neither of these commands seem to download a bundle, but development happens very fast in the TextMate community, so it may be working by the time you read this.

Another promising source for bundles is <http://bundleforge.com/>. BundleForge provides subversion

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hosting for bundle authors, a prettier way to view the official TextMate subversion repository, and a way to download a tarball of a bundle, for easy double-click installation. BundleForge is probably the simplest way to get double-clickable bundles, for those not familiar with subversion.

Remember: when you get and install a bundle, look and see if it has a Help command. At the very least go through the menus and familiarize yourself with the snippets and macros on the menus!

But don't forget the bundles included in TextMate! My favorite built-in bundles are the Math bundle (including commands to perform math on the selection and translate bases); the Source bundle (including commenting commands and the Move To EOL commands.) and the TODO bundle (makes a list of TODO lines found in every source file of a project). Or explore these with the bundle editor and find out how these commands work!

## Robot Ninjas Wear Red (No, blue) Cloaks

TextMate is highly customizable with its collection of Themes. There are two main collections of themes online: the TextMate wiki at: <http://wiki.macromates.com> (then click on Themes Gallery in the sidebar on the left), and <http://www.tmtthemes.com/>. A word of warning here: very often themes will work best with one language or another, this is an unfortunate side effect of how themes are created. Take a moment to page through these themes, and see if you find one you like better than you current TextMate theme. There are themes for everyone's tastes, even themes to ease eyes accustomed to BBEdit's default color scheme. Once you've downloaded a theme, simply double-click on it and it will open TextMate and install itself. Themes are keyed to language scopes, applying specified colors to chunks of code. Opening the Fonts And Colors pane in TextMate's Preferences shows a list of elements. Clicking on an element will show the scope (in the Scope Selector field) where that color will be applied.

Scopes are actually defined in a bundle's language grammar. A simple example of this is TextMate's own Release Notes. TextMate's release notes (available from the Help menu) is simply a text file... but a text file that is stylized into something useful by TextMate.

TextMate picks a language to use based on a file's extension, specified by the language grammar. If you open up the Bundle Editor, go into the TextMate bundle, and select the Release Notes language, you'll see these lines:

```
(  scopeName = 'text.plain.release-notes';
  fileTypes = ( 'tmReleaseNotes' );
  patterns = (
```

If we examine these two lines in detail we see that the scope name is `text.plain.release-notes`, meaning it inherits from the `text.plain` language grammar (check it out: that grammar lives in the Text bundle). We also see that the `fileType` is `tmReleaseNotes`. That is your extension: if you saved a document with that extension it would open up as

TextMate's release notes (Of course, selecting Release Notes from the language popup will activate the Release Notes language grammar too!)

Each rule (that is, pattern) in the language grammar has at least two parts: a scope name and a regular expression. If a chunk of code matches the regular expression, that chunk of code is said to have that scope, and any theme elements for that scope selector are applied.

Examining this in action, click one of the [UPDATED] or [NEW] or [FIXED] lines, specifically in the middle of the [js. From the Bundles menu's Bundle Development the Show Scope command will display the current scope in a tooltip. In this case we find the scope is `keyword.other.release-notes`. Go into the Fonts and Colors Application preference, and click the plus button at the bottom. Name your element (this part is irrelevant), give it the scope selector of `keyword.other.release-notes` and pick a color or style (notice how changes are reflected in the document in real time!).

Element styles are not "stackable". For example, if we added an element with a Scope Selector of `keyword`, and gave it complimentary style to the element we created above (say `keyword` is underlined where `keyword.other.release-notes` is just colored red) then our [(FIXED/CHANGED/NEW)] lines will not be red with underlines—they will just be red. You could think of this in terms of overriding in the object oriented sense – if you override a method from a superclass, your method is used instead of the base class's. In our case, `keyword.other.release-notes` beats `keyword`. If `keyword.other.release-notes` element is missing or misspelled, the default implementation (our `keyword` element) is used. In simpler words: TextMate picks the most specific style if it can and if one's not found it works its way to more general and still more general, until it can't anymore.

Moving beyond Fonts And Colors, bundle preferences are applied to scopes. For example, if you wanted to change the colors of the [DATE: Revision ####] lines in the Release Notes, you'd find there is no element in Fonts And Colors to tweak this. But you can force color settings for scopes in the bundle's preferences: look in the Style: Separator bundle preference. Want to make separators have black text instead? Change the foreground key value to `#000000`.

Want to add spell checking to comments for any programming language you work in? In the Source bundle (because every other code language "derives" from this bundle) add a preference with the value `{spellChecking = 1;}` and the scope of `comment.block`, `comment.line` (so, any of those two scopes).

Scopes also control what commands, snippets, and macros are available – this is how the h1 snippet, for example, only expands when editing a HTML document.

For those interested in creating your own language grammars, the Bundle Development submenu's Help: Scope Conventions, which covers some of the information above and naming conventions for your language grammar and rules. For those of you wanting to create your own themes: usually a look through a language grammar sparks some ideas, even without



taking the time to understand what the regular expressions are doing.

## Robot Ninjas Disappear Into The Night, Leaving You Wondering What Else They Could Do

The awesome power of TextMate, like the awesome power of robot ninjas, can't be described in a single article. We didn't even get into projects, TextMate's Find/Replace (with grep power!), touch any of the standard bundles, take a good look at TextMate's macro powers, or even take a look of the advanced powers of snippets! The Project Drawer is great part of the workflow, even integrated with the Navigation->Go to Header/Source menu item. (A peek of power of a project file: Go To Header/Source will search for files with the same name, but different extension, all over the project file. Without a project file Go To Header/Source only looks in the same folder as the current file). Creating your own language grammar (or modifying an existing one) is one way to really learn the concepts touched on in the previous section.

Another mostly unexplored area is the Bundle Editor. The bundle editor is where all the customization magic happens. From Snippets, to Commands, to Macros, to languages and preferences acting on language scopes, you'll find it all in here. A TextMate bundle can have any number of preference settings, in (the old, ASCII style) plist format – this is where the `smartTypingPairs` and the `completions` preference keys live. Remember to use the popup above the bundle list to zoom in on just what you want. The bundle scheme in and of itself smacks of object orientation: Languages can inherit from other languages, and override functionality provided in the parent languages. For example, the CSS bundle inherits from the Source bundle.

Bundles can have Commands in addition to Snippets – commands can take input from the frontmost document and return text for the document, or HTML for a separate window. Commands are written by default in bash shell script, but a simple `#!/` line can change that (just like in script you write on the console). So `#!/usr/bin/env python` as the first line of the Command signals that it is written in Python.

But say you need to run something just once on the selection, and you don't need to keep the command in a bundle (say like sorting some lines). Select the lines and select Text->"Filter Through Command". This gives you space to type out a Unix command (like `sort -f`, to sort lines regardless of their capitalization). Leverage the power of your Unix forefathers!

TextMate's application preferences are tiny, compared to say BBEdit's. We know this is because most of the power lays in bundles, but I want to show you something quickly: Advanced pane, Shell Variables group box. Here you can define Unix Environmental Variables. Did you explore the Heading snippet when we first played with Snippets and the tab key? Well, any variable can be used there: including one you define here, in TextMate's Shell Variables preferences. Environmental Variables can also be defined at the project level!

TextMate's awesome power is quick to surface, and easy to take advantage of. With a bit more work, like finding and learning a bundle for the task you most often do (Web programming, Cocoa, shell scripting, Apache config file editing), you can direct armies of robot ninjas, leaving onlookers to wonder "Who was that unmasked man, and how did he do that?"

## More About Robot Ninjas From Denmark

For more information on TextMate, The Pragmatic Programmer's book *TextMate: Power Editing For The Mac*, is available at fine bookstores near you, or at <http://www.pragprog.com/titles/textmate>. (And yes, I've stolen the Robot Ninja theme of this article from that book's back cover). There's also a review of TextMate by Joe Zobiw in the April 2006 edition of MacTech (Volume 22, Issue 4). There's a strong community at <http://www.macromates.com>, consisting of a wiki and mailing lists – lots of places to learn.



### About The Author

*Ryan Wilcox has more than a decade of experience making text editors sing. Ryan would have given his first born to Barebones, the makers of BBEdit... until he found TextMate. Now Ryan loves the robot ninjas inside TextMate. He can be found at: <http://www.wilcoxd.com>*

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# THE ROAD TO CODE

by Dave Dribin

## More Cocoa Bits

### Interface Builder UI tweaking and introduction to table view

## Customizing the User Interface

Last month in *The Road to Code* we went over how to customize application behavior using notifications and delegates. This month we're going to start off talking about how you can customize the user interface in Interface Builder. There's a lot you can tweak without writing a line of code.

### Window Resizing

One important aspect of user interface design is how the window and its views and controls react to resizing. Improper resizing may confuse the user and lead to a bad user experience. You control how resizing affects each and every view and control within Interface Builder. Unfortunately, the defaults are rarely useful. For example, if we resize our *Hello World* window with the default settings, it will look similar to Figure 1.

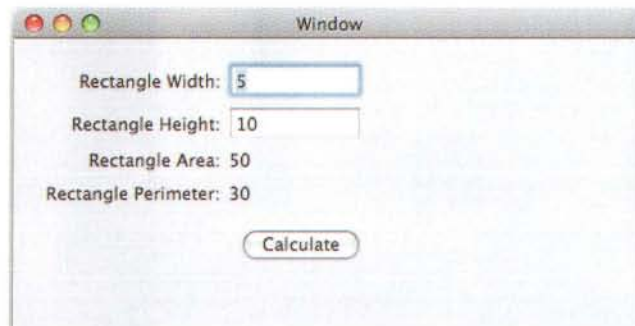


Figure 1: Improper window resizing

As you resize, all the controls will be bunched up in the upper-left portion of the window. This isn't really a good use of the extra space. The text fields on the right should expand to the full width of the window, and the **Calculate** button should also stick to the right side of the window. Thus we want the window to look similar to Figure 2 when resized.

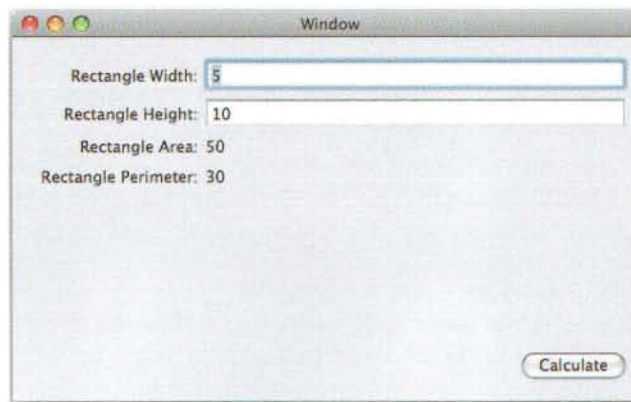


Figure 2: Proper window resizing

I've also kept the **Calculate** button on the bottom of the window. You could also keep it pinned towards the top, but for demonstration purposes, I'm going to keep it on the bottom. In order to make our window properly resize like this, we need to open Interface Builder.

Select the text field next to the **Rectangle Width** label. Next, open up the **Inspector** panel and select the **Size** tab; it's third from the left with the ruler icon. It should look similar to Figure 3.

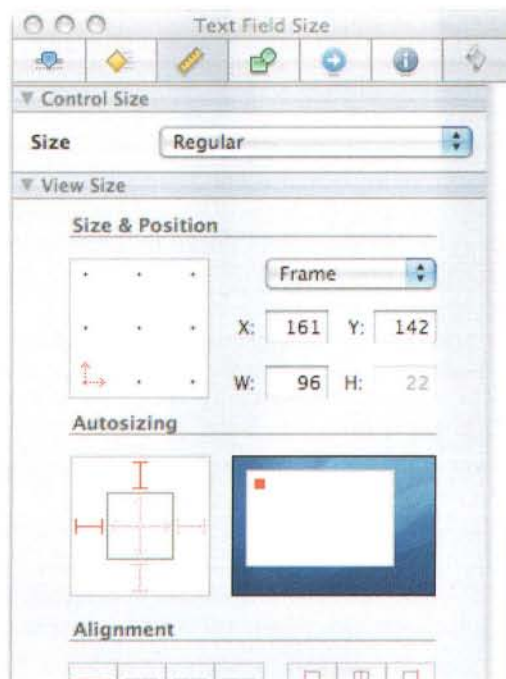


Figure 3: Size panel of the Inspector

This panel contains information about the size of the selected view. The **Autosizing** section is the part that dictates how the control behaves when the window is resized. The left portion of the autosizing section is called the *springs and struts*.



There are six lines you can click on and activate, two on the inside and four on the outside. The two on the inside are called *springs* and the four on the outside are called *struts* as noted in Figure 4.

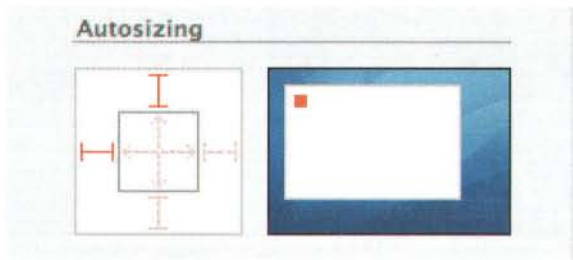


Figure 4: Autosizing springs and struts

When a specific string or strut is activated, it is colored red and has a solid line. When not activated, it is colored light red with a dotted line. An activated spring indicates that the width or height of the view expands and contracts in proportion to its superview. An activated strut indicates that the view maintains a fixed distance between its edge and the same edge of its superview. The right portion of autosizing section is an animated preview showing you how the settings will affect the view. You should see the animation change as you activate and deactivate springs and struts.

The animated preview is handy, but sometimes you need to actually run the application and try resizing the window to verify your settings. While you can go back to Xcode and run the application, Interface Builder allows you to simulate the interface without switching to Xcode. Choose the **File > Simulate Interface** menu or **Command-R** to do this. While simulating the interface, you may resize the window and watch how the views react. When you are done, you need to quit the Cocoa Simulator using the menu or **Command-Q**. Between the animation preview and the simulator, you should be able to find the correct springs and struts settings for your application without ever switching to Xcode.

The default setting, as shown in Figure 4 above, is to have the top and left struts activated and no springs activated. This explains why all of our controls are bunched up in the upper left portion of the window. For our text fields, we want to activate the horizontal spring and the left, right, and top struts. This will cause them to resize horizontally while staying pinned on the left, right, and top. The final settings should look like Figure 5.

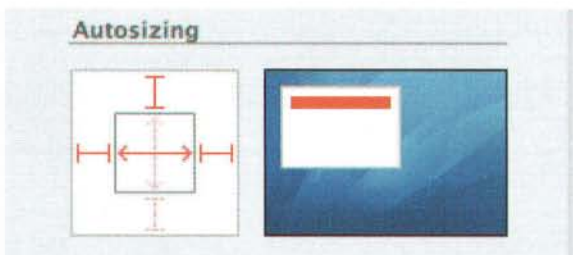


Figure 5: Autosizing for text fields

For the **Calculate** button, we don't want any springs activated. The default settings have only the top and left struts activated, so we need to change this again. We want only the right and bottom struts activated. This will keep the button pinned to the lower right portion of the window. The final settings should look like Figure 6.

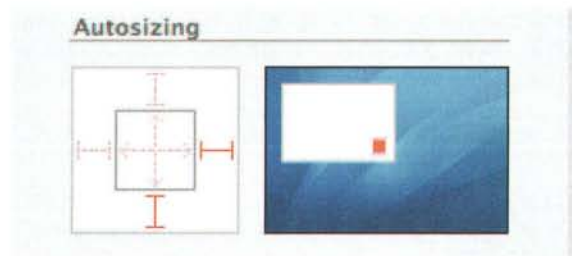


Figure 6: Autosizing for button

Try simulating the user interface, and see if it behaves correctly. It should now work as shown in Figure 2. Once it works, save the nib file, switch back to Xcode, and run the application. Again, the controls should resize appropriately.

There's one final aspect of our resizing that's not quite right. While making the window bigger works fine, it is possible to resize the window so small such that not all of our controls will fit in the window. To prevent this, we can specify a minimum size for our window. The window's sizes can be viewed and set in the **Size** pane of the Inspector window, as well. If you select the window by clicking on its title bar the **Size** pane should look similar to Figure 7.

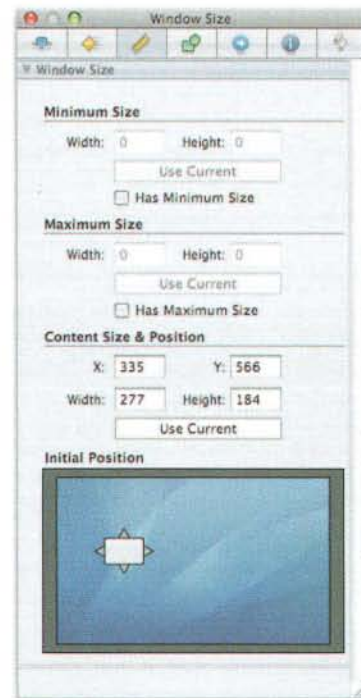


Figure 7: Window size



You can see that our window has neither a minimum nor maximum size. Click on the **Has Minimum Size** checkbox to enable a minimum size. I think the window as currently laid out makes a nice minimum size, so click the **Use Current** button to set the minimum size to the window's current size. If you now simulate the user interface, you should be able to resize the window larger and smaller, as before, but you should not be allowed to resize it any smaller than the defined size. This is perfect, so save the nib file. If you want, you may provide a maximum size, too. I'm going to keep the maximum size disabled so the user can make the window as large as they want.

## Resizing the window in Interface Builder

You can now properly resize the window in a running application, but what about resizing the window in Interface Builder? You can resize the window by dragging the resize corner, just as in a running application. However, the controls inside the window do not resize according to their autosizing settings. This may be fine if you are resizing the window to make room for more views. However, if you just want to make the window larger or smaller, it can be a chore to go through and manually resize each view and control after resizing the window. Fortunately there is a trick. If you hold down the **Command** key while resizing the window in Interface Builder, the controls will also resize according to their autosizing settings. If, for some reason, you forget to hold down **Command** while resizing the window, Interface Builder allows you to undo the resize. Then you can redo it while holding down the **Command** key.

## Formatters

By default, text fields can display and accept any text. Sometimes, however, the text fields need stricter formatting. Our rectangle program is a perfect example. The rectangle values are all floating point numbers. Maybe we would like to control how many decimal points are displayed. Also, our user interface doesn't stop the user from entering letters into the width and height fields. Other applications may like to format numbers in text fields as currency or percentages.

Luckily Cocoa has just the solution for us, called *formatters*. Formatters can be added to any text field to customize how objects are presented to the user. Interface Builder comes with two built-in types of formatters that you will use frequently: number formatters and date formatters. Number formatters take a number, usually a floating point number, and format it better. They are quite flexible and can be used to customize how decimal points are used, as well as allowing you to add comma separators for numbers over a thousand and format numbers as currency and percentages. To apply a formatter to a text field, drag it from the **Library** panel on top of a text field, as in Figure 8. Date formatters are used to customize the presentation of `NSDate` objects.

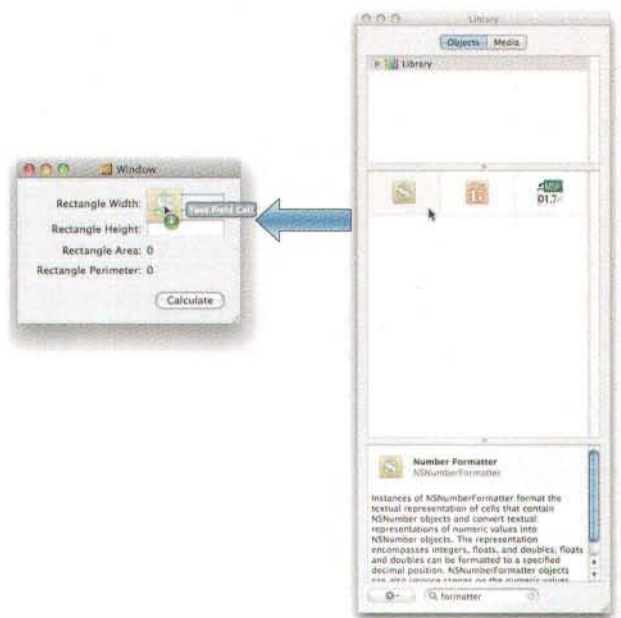


Figure 8: Adding a number formatter

The formatter is now attached to the text field. Interface Builder shows this by adding an icon of the formatter just below the text field as shown in Figure 9.

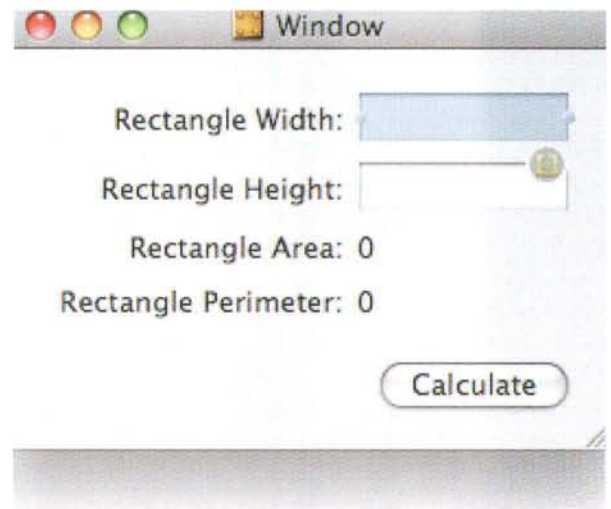


Figure 9: Text field with an attached formatter

By clicking on the formatter icon, you can change its attributes. Click on the formatter now, and the **Attributes** pane of the **Inspector** panel should update as in Figure 10. The **Style** pull-down menu offers various pre-configured formats. Set the **Style** to be **Decimal**.

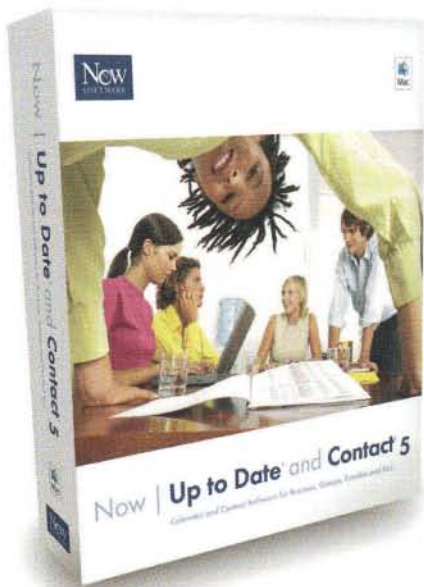


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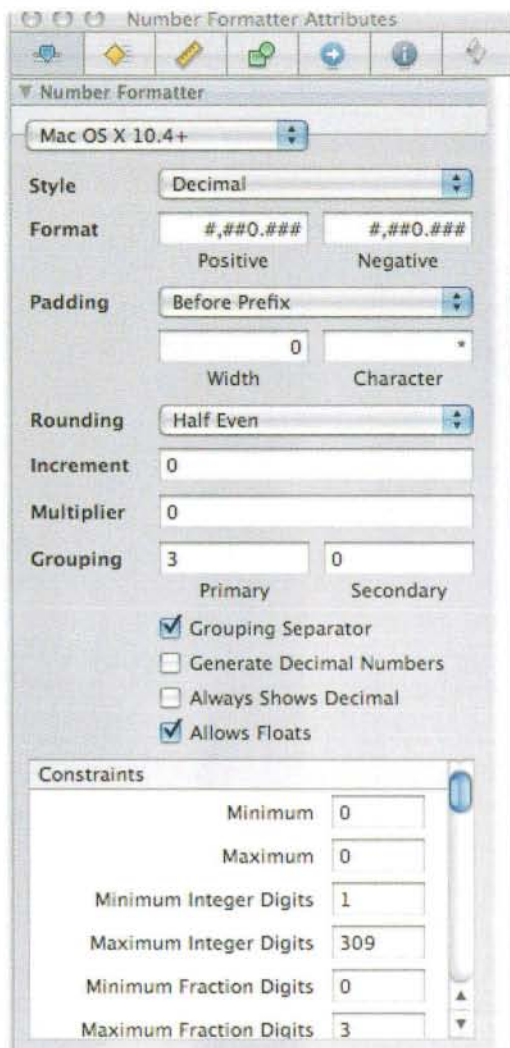


Figure 10: Number formatter attributes

Now add a formatter with the **Decimal** style to the other numeric text fields, as well. If you would like, you can customize the decimal field to show one digit after the decimal point by setting the **Minimum Fraction Digits** to 1. When you run the application with formatters in place, numbers over 1,000 should be formatted appropriately as shown in Figure 11.

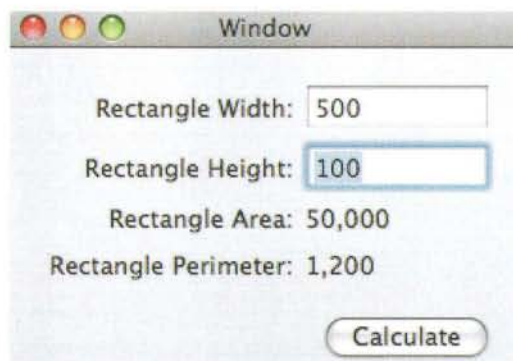


Figure 11: An application with formatters

Formatters not only convert from an object to text, but they also convert text back into an object. For number formatters, they are converted to `NSNumber` objects. The most important benefit we get out of using number formatters for input is that it restricts the user input to numbers only. If the user enters letters, the formatter will remove them from the text field.

With the autosizing properly set up, the minimum window size in place, and formatters on the text fields, our user interface is now nicely polished. And we didn't have to write a single line of code. All the tweaking was done using Interface Builder. The final code for this project may be found on the MacTech website.

## Table Views

I'd like to shift gears a bit and get back to code and talk about a popular control called a *table view*. A table view is a control, like buttons and text fields, and is implemented by the `NSTableView` class. It displays rows and columns of information, similar to a spreadsheet application. It is a powerful control that is used in many applications.

Because a table view may display large amounts of information, the view class itself does not hold all the data. Instead, the table view requires a separate class that provides the data called a *data source*. Whenever the table view needs to display data for a specific row and column, it asks the data source for this information.

In last month's article, we talked about notifications and delegates as a way to customize user interface behavior in code, and data sources are very similar to delegates. A data source class must also implement specific methods. A table view may have both a delegate and a data source. The table view's delegate is only used for customizing the behavior of the view itself, just like the window and application delegates from last month. The same class may even implement the table view data source and delegate methods.

Let's go over a simple example of a table view and its data source. We're going to ignore the table view delegate and use the default behavior. Create a new **Cocoa Application** project in Xcode and open up its **MainMenu.nib** file in Interface Builder. You should have a blank window. Now, find the table view in the **Library** panel and drag it to the window. Resize the table view so that there is a small border around all sides. Finally, active all the springs and struts for the table view. This should allow the table view to expand vertically and horizontally as the window is resized.

Next, let's look at the attributes for a table view that are available in Interface Builder. Because a table view is enclosed in a scroll view, it can sometimes be a bit tricky to choose the table view. With the **Attributes** pane of the **Inspector** panel selected, click on the table view. Most likely, this will select the outer scroll view, which will have attributes that look like Figure 12. You may customize how the scroll bars, or *scrollers*, are displayed from this panel. The default is fine for us.

Clicking on the table view again should select the table view itself, and the **Attributes** pane should look similar to Figure 13. Now you can customize attributes of the table view



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itself, such as how many columns it has and various selection possibilities. Again, we're going to leave the default settings, but we will be coming back to this shortly.

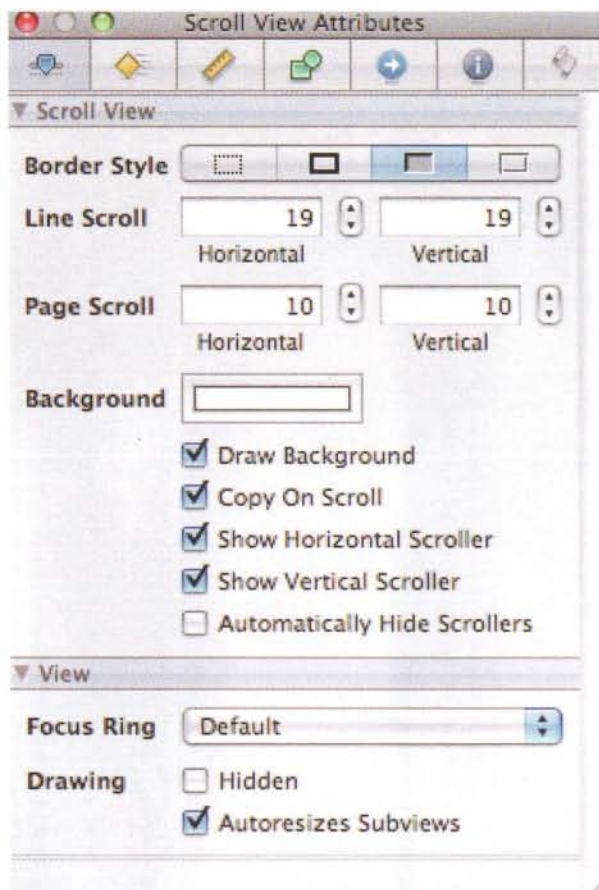


Figure 12: Scroll view attributes

Oh, and because selecting the scroll view and table view can be a bit tricky, I'm going to let you in on a little secret that may help out. You can customize how Interface Builder shows the components in the nib. If you select list mode from the toolbar, you will be presented with a hierarchical list of components, instead of just icons. From this view, you may open up the disclosure triangles to select the scroll view or table view directly, as in Figure 14. Using list mode is often very helpful in selecting nested views, such as table views, tab views, and split views.

With the table view selected, you can now select individual table columns and change *their* attributes. After selecting the first table column, set its title and identifier to **Column 1** and **One**, respectively, as shown in Figure 15. Now change the second column to have its title and identifier to be **Column 2** and **Two**, respectively.



Figure 13: Table view attributes

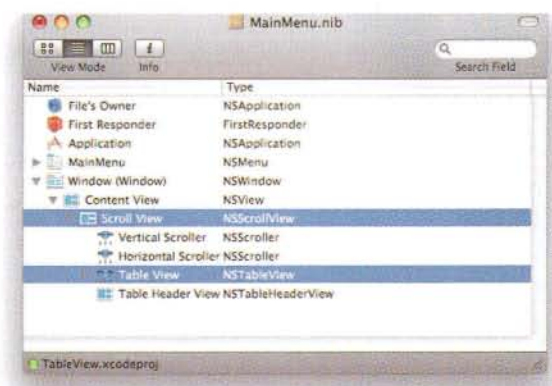


Figure 14: List mode of Interface Builder



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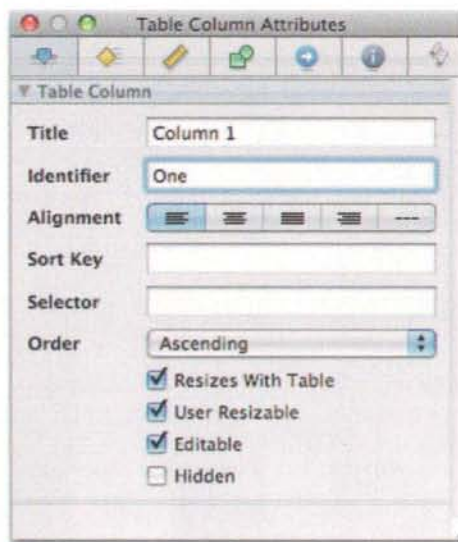


Figure 15: Table column attributes

If you save the nib and run the application from Xcode, you should get a window and table view, but the table view should be empty. In order to get data into the table view, we need to implement a data source in code. Create a new Objective-C class and name it `MyController`. In order for this class to be a table view data source, it must implement at least two methods. Here's the first one:

```
- (NSInteger) numberOfRowsInTableView: (NSTableView *)
tableView;
{
    return 3;
}
```

The purpose of this method is self-explanatory: it sets the number of rows for a given table view. While the number of columns is set in Interface Builder, the number of rows is set in your code. For demonstration purposes we are returning a constant value of 3, which means three rows will be displayed.

Every row and column refers to a particular value in the table called a *table cell*. The second method that you must implement provides the actual data for each cell:

```
- (id) tableView: (NSTableView *) tableView
objectValueForTableColumn: (NSTableColumn *) tableColumn
row: (NSInteger) rowIndex
{
    NSString * identifier = [tableColumn identifier];
    return [NSString stringWithFormat:
        @"%@ %d", identifier, rowIndex];
}
```

This method gets called for each and every cell in the table. You'll notice that it passes a table column object, `NSTableColumn`, and a row index. You may be surprised that it does not pass a column index, too. The problem is that the user is free to re-order columns, and this would make the column index pretty useless. From column object, we can get the identifier we setup in Interface Builder. The identifier is a much more reliable value than the column index, thus you can see why using a unique and

meaningful identifier is very useful. For testing purposes, we are returning a string using the table column identifier and the row index.

We're almost ready to run our application, but first we need to tell the table view that `MyController` is its data source. Be sure to save all your files in Xcode and switch to Interface Builder. Find `NSObject` in the Library panel and drag it to your `MainMenu.nib` window. Set the class of this new object to be `MyController` in the Inspector panel. This creates an instance of the `MyController` class inside the nib.

Hooking this object up to the table view is similar connecting a delegate. You need to control-drag from the table view to the controller object. Be sure you are dragging from the table view and not the scroll view or the table column. Use list mode, if you have trouble selecting the table view. Once you control-drag from the table view to the controller object, Interface Builder should popup a menu allowing you to choose the outlet for connection. Two choices exist for table views: `dataSource` and `delegate`. Choose `dataSource` from the menu, as shown in Figure 16.



Figure 16: Connecting a data source

Now, save the nib, switch back to Xcode, and run the application. If all goes well, you should see a window similar to Figure 17. There should be three rows in the table and the contents of each table cell should be a mix of the table column identifier and the row index. You can even re-order the table columns if you want, and the table cell values should remain the same.

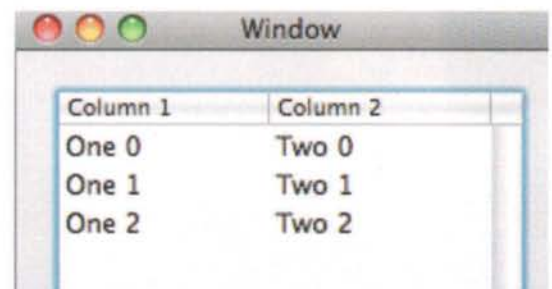


Figure 17: Simple table application





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## A Useful Table Example

Admittedly, that example is not very useful, so let's spice it up. Let's bring back our trusty `Rectangle` class and create an application to show a list of rectangles along with their area and perimeters. Add the `Rectangle.h` and `Rectangle.m` files to your Xcode project. For reference, the header file is shown in Listing 1.

### Listing 1: `Rectangle.h` header file

```
#import <Foundation/Foundation.h>

@interface Rectangle : NSObject
{
    float _leftX;
    float _bottomY;
    float _width;
    float _height;
}

@property float leftX;
@property float bottomY;
@property float width;
@property float height;
@property (readonly) float area;
@property (readonly) float perimeter;

- (id) initWithLeftX : (float) leftX
    bottomY: (float) bottomY
    rightX: (float) rightX
    topY: (float) topY;

@end
```

Go to Interface Builder and select the table view. We need to setup our table with four columns, each with the following header titles: Width, Height, Area, and Perimeter. In the table view's attributes, set the number of columns to 4. Resize the window so that all four columns are available. Then, select each column and change the title and identifiers appropriately. In order to keep things simple, let's keep the identifiers the same as the titles. Finally, make sure each column is not editable. The attributes for the width column are shown in Figure 18. Make sure the other three columns are setup in a similar fashion.

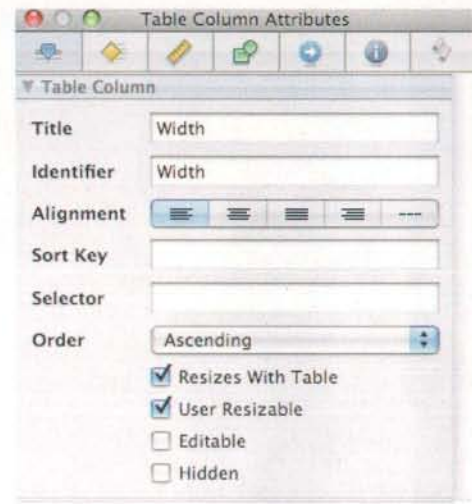


Figure 18: Width column attributes

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Just as we can add formatters to text fields, you can also add them to table columns. Add number formatters to each of the table columns by dragging from the **Library** to the text cells of each table column. Set their style to be **Decimal**, as we did earlier.

We are finished with the user interface, so save the nib and switch to Xcode. Our controller class will keep an array of rectangles and display them in the table. Let's start out by populating the array in our constructor with a few rectangles:

```
- (id) init
{
    self = [super init];
    if (self == nil)
        return nil;

    _rectangles = [[NSMutableArray alloc] init];

    Rectangle * rectangle;
    rectangle = [[Rectangle alloc] initWithLeftX : 0
                                              bottomY: 0
                                              rightX: 10
                                              topY: 20];

    [_rectangles addObject: rectangle];
    // Without garbage collection you need:
    // [rectangle release];

    rectangle = [[Rectangle alloc] initWithLeftX : 0
                                              bottomY: 0
                                              rightX: 500
                                              topY: 100];

    [_rectangles addObject: rectangle];
    // Without garbage collection you need:
    // [rectangle release];

    return self;
}
```

Be sure to add the `_rectangles` instance variable to the header file. Now, we're going to enable garbage collection for our project, too. This allows use to avoid releasing the rectangle instances and avoid implementing a destructor. Click on the project name in the **Groups & Files** list on the left. Then choose the **File > Get Info** menu to open up the **Inspector** panel. Select the **Build** tab, find the **Objective-C Garbage Collection** build setting and set it to **Supported**.

If you do not want to enable garbage collection, uncomment the release calls to rectangle and implement the `dealloc` method to release the `_rectangles` array. You also need to release the rectangle instances after adding them to the `_rectangles` array, as described in the comments. Remember the array retains objects, so you need to release them if you no longer need them.

Now we need to modify our data source methods to use the array of rectangles, instead of hard coded values. The `numberOfRowsInTableView` method is easy. It returns the number of elements in the `_rectangles` array:

```
- (NSInteger) numberOfRowsInTableView: (NSTableView *)
tableView
{
    return [_rectangles count];
}
```

The `tableView:objectValueForTableColumn:row:` method is a bit more complex. It needs to return the proper rectangle property based on the identifier. The other tricky part is

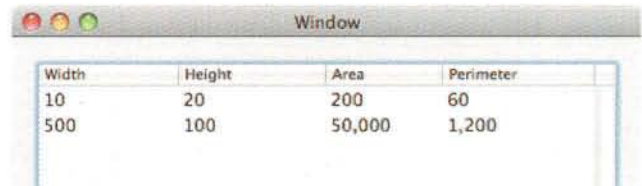
that the method returns an `id` type. This means we need to wrap our float values inside an `NSNumber` instance, as well:

```
- (id) tableView: (NSTableView *) tableView
objectValueForTableColumn: (NSTableColumn *) tableColumn
row: (NSInteger) rowIndex
{
    NSString * identifier = [tableColumn identifier];
    Rectangle * rectangle = [_rectangles objectAtIndex:
rowIndex];

    float value;
    if ([identifier isEqualToString: @"Width"])
        value = rectangle.width;
    else if ([identifier isEqualToString: @"Height"])
        value = rectangle.height;
    else if ([identifier isEqualToString: @"Area"])
        value = rectangle.area;
    else if ([identifier isEqualToString: @"Perimeter"])
        value = rectangle.perimeter;

    return [NSNumber numberWithFloat: value];
}
```

Running our application now should result in a window similar to Figure 20. It should show our two rectangles, along with their corresponding area and perimeter.



Width	Height	Area	Perimeter
10	20	200	60
500	100	50,000	1,200

**Figure 20: Initial rectangle table**

Try resizing the window and see if it works correctly. Also try editing the individual table cells. Because we setup our table columns to be uneditable, it should not be allowed. The full listings for `MyController` are shown in Listing 2 and Listing 3.

## Listing 2: MyController.h header file

```
#import <Cocoa/Cocoa.h>

@interface MyController : NSObject
{
    NSMutableArray * _rectangles;
}

@end

#import "MyController.h"
#import "Rectangle.h"

@implementation MyController
```

## Listing 3: MyController.m source file

```
- (id) init
{
    self = [super init];
    if (self == nil)
        return nil;

    _rectangles = [[NSMutableArray alloc] init];

    Rectangle * rectangle;
    rectangle = [[Rectangle alloc] initWithLeftX : 0
```



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```

bottomY: 0
rightX: 10
topY: 20];

[_rectangles addObject: rectangle];
// Without garbage collection you need:
// [rectangle release];

rectangle = [[Rectangle alloc] initWithLeftX    : 0
                                             bottomY: 0
                                             rightX: 500
                                             topY: 100];

[_rectangles addObject: rectangle];
// Without garbage collection you need:
// [rectangle release];

return self;
}

- (NSInteger) numberOfRowsInTableView: (NSTableView *)
tableView
{
    return [_rectangles count];
}

- (id) tableView: (NSTableView *) tableView
objectValueForTableColumn: (NSTableColumn *) tableColumn
row: (NSInteger) rowIndex
{
    NSString * identifier = [tableColumn identifier];
    Rectangle * rectangle = [_rectangles objectAtIndex:
rowIndex];

    float value;
    if ([identifier isEqualToString: @"Width"])
        value = rectangle.width;
    else if ([identifier isEqualToString: @"Height"])
        value = rectangle.height;
    else if ([identifier isEqualToString: @"Area"])
        value = rectangle.area;
    else if ([identifier isEqualToString: @"Perimeter"])
        value = rectangle.perimeter;

    return [NSNumber numberWithFloat: value];
}

@end

```

## Conclusion

Once again, we've covered a lot of ground in just one article. There's a lot more we can do with a table view, too much to cover in a single article. Next month, we'll explore how to add and remove rectangles from the table. That is, if you haven't gone ahead and figured it out on your own.

**M**

## About The Author



*Dave Dribin has been writing professional software for over eleven years. After five years programming embedded C in the telecom industry and a brief stint riding the Internet bubble, he decided to venture out on his own. Since 2001, he has been providing independent consulting services, and in 2006, he founded Bit Maki, Inc. Find out more at <<http://www.bitmaki.com/>>*

and <<http://www.dribin.org/dave/>>.



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## THE MACTECH SPOTLIGHT

# Dave Hayden

*Panic, Inc.*

### What do you do?

I usually call myself a “programmer”, in quotes, because engineer seems a bit too button-down starched collar. Too... Dilbert, I guess. Most engineers I’ve met have honest engineering degrees, and always seem to wind up in management. Real hacker genius programmers usually didn’t bother with college, going straight for real-world experience. But since I have a math degree from a liberal arts college, I’m not sure I fit in there, either. I’d call myself a “code artist” but that’s just pretentious, even if fairly accurate.

At Panic, I do the coding for Unison, our Usenet client. I’ve also done most of the protocol support for Transmit, and some of the animation and graphics effects in Coda. I’m also the only guy in the office who remembers trigonometry, much less calculus, and I’m pretty good at hunting down the really scary bugs that make you consider religious conversion. (But maybe that’s because I’m the one that caused them in the first place.)

Right now I’m hard at work on Unison 2, the app’s first major update since we launched it five years ago — that means I get to go from supporting 10.2 to requiring 10.5, which is really exciting. I’ve fallen in love with Core Animation and it’s getting pretty serious; we’re even talking about moving in together. (Sorry, Core Data. It’s not you, it’s me.)

### How long have you been doing what you do?

I started doing Mac programming (or “programming”) when I joined Panic six and a half years ago, working in the living room of company founders Cabel and Steve’s apartment. Before that, I got my first coding job right out of college, doing server-side web programming at a long-extinct web agency. That was before the era of PHP, so my first task was unraveling the worst nest of C code that’s ever been written, left behind by a previous programmer of questionable sanity — he was fond of obscene function names, and at one point used negative array indexes. Between those two jobs, I worked freelance (that is, I was unemployed) and worked on open source projects dealing with the SWF Flash file format.

### What was your first computer?

An Apple II+, in 1980. I wrote a lot of BASIC code, and I rocked the BBSes with my 300 baud modem. In 1984 we got the original 128K Macintosh, but it seemed weird to me that it didn’t have a programming environment built in like the Apple did so I still spent more time on the II+. That was actually the last Apple computer I had until I bought a G3.

### What’s the coolest tech thing you’ve done using OS X?

The first project I worked on at Panic was a kind of 2D graphical environment thing, where you could create your



own “home”, fill it with handy widgets like a calendar and music player, friends could stop by and chat, and so on. It was cross platform — Steven was in OS X 10.0, Cabel still in OS 9, and I was running under Cygwin on my crusty old Windows laptop. The rendering engine was custom from the ground up, the whole thing was driven by a bytecode-compiled scripting language based on code I’d previously written (and abandoned) for a Flash runtime.

From an “engineering” standpoint, it was pretty cool. But it was also way over-complex, and had serious spec confusion. In short, it didn’t solve a specific problem so it never really “clicked”. We put it aside for a while to get Transmit 2 out, and by the time we came back it didn’t make much sense to keep working on it. In retrospect it was definitely the right decision, but I always wonder what would have happened if...

### Where can we see a sample of your work?

Besides Panic, I’ve been doing a lot of photography:  
<http://www.foveate.com/>

and boatbuilding:

<http://www.opaque.net/~dave/dory/>

I try to avoid programming projects outside of work. I already spend too much time in front of the computer.

The next way I’m going to impact IT/OS X/the Mac universe is:

Just keep doing what we’re doing, really. I’m extremely lucky to be working with such talented people here at Panic, and we’ve done pretty well so far.

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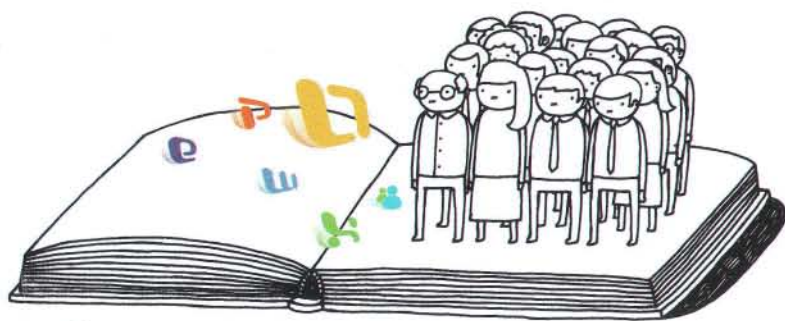
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